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LECTURE I.

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GENERAL AND INTRODUCTORY.

MR. PRESIDENT AND FELLOWS,—It is my first agreeable duty to offer my sincere thanks for the honour conferred upon me in the invitation to deliver the Croonian lectures of the current year before this College. I trust that the subject which I have selected will be found to conform closely to the instructions to the lecturer, for it is one which lies upon the very border-line of physiology and pathology and pertains to both sciences alike; nor is it without bearing upon the control and cure of disease, in so far as no study which helps to throw light upon the complex chemical processes which are carried out in the human organism can fail in the long run to strengthen our hands in the combat with the pathogenic influences which make for its destruction.

The differences of structure and form which serve to distinguish the various genera and species of animals and plants are among the most obvious facts of nature. For their detection no scientific training is needed, seeing that they cannot escape the notice of even the least cultivated intelligence. Yet with the growth of knowledge we have learned to recognise the uniformity which underlies this so apparent diversity and the genetic relationship of form to form. With regard to the chemical composition of the tissues of living organisms and the metabolic processes by which those tissues are built up and broken down, the advance of knowledge has been in the opposite direction, and the progress of chemical physiology is teaching us that behind a superficial uniformity there exists a diversity which is no less real than that of structure, although it is far less obvious. The differences of ultimate composition and crystalline form which distinguish the hæmoglobins of animals of distinct genera have long been known. That the fats of animals are not alike in composition is well recognised, as also are the differences of their bile acids, to quote only a few of the most conspicuous examples. As instances of distinctive end-products of metabolism may be mentioned kynurenic acid, which is present in the urine of animals of the canine tribe and which bears witness to a generic peculiarity in the manner of dealing with the tryptophane fraction of proteins, and the excretion by birds and reptiles of the bulk of their nitrogenous waste in the form of uric acid, whereas in the urine of mammals urea is the chief nitrogenous constituent.

A more extended study even by strictly chemical methods will doubtless serve to reveal innumerable minor differences, such as are foreshadowed by Przibram's[1] work on muscle proteins. The delicate ultra-chemical methods which the researches of recent years have brought to light, such as the precipitin test, reveal differences still more subtle, and teach the lesson that the members of each individual species are built up of their own specific proteins which resemble each other the more closely the more nearly the species are allied. Obviously it is among the highly complex proteins that such specific differences are to be looked for rather than in the simple end-products of their disintegration. The many amino-acids which enter into the structure of the protein molecules are capable of almost innumerable groupings and proportional representations, and each fresh grouping will produce a distinct protein; but all alike in their breaking down will yield the same simple end-products, urea, carbon dioxide, and others.

Nor can it be supposed that the diversity of chemical structure and process stops at the boundary of the species, and that within that boundary, which has no real finality, rigid uniformity reigns. Such a conception is at variance with any evolutionary conception of the nature and origin of species. The existence of chemical individuality follows of necessity from that of chemical specificity, but we should expect the differences between individuals to be still more subtle and difficult of detection. Indications of their existence are seen, even in man, in the various tints of skin, hair, and eyes, and in the quantitative differences in those portions of the end-products of metabolism which are endogenous and are not affected by diet, such as recent researches have revealed in increasing numbers. Even those idiosyncrasies with regard to drugs and articles of food which are summed up in the proverbial saying that what is one man's meat is another man's poison presumably have a chemical basis.

Upon chemical as upon structural variations the factors which make for evolution have worked and are working. Evidences of this are to be detected in many directions, as, for example, in the delicate selective power of the kidneys, in virtue of which they are enabled to hold back in the circulation the essential proteins of the blood but at the same time allow free passage to other proteins which are foreign to the plasma, such as hæmoglobin, egg albumin, and the Bence-Jones protein, when these are present in any but quite small amounts. The working of these factors is also seen in the various protective mechanisms against chemical poisons, such as that which averts the depletion of the fixed alkalies of the organism by the neutralisation of abnormal supplies of acids by ammonia. This mechanism is well developed in the carnivora and in man, but in vegetivorous animals which from the nature of their diet are little exposed to acidosis it appears to be wanting.

Even in the normal metabolic processes the working of such influences may be traced, as in the power which the organism possesses of destroying the benzene ring of those aromatic amino-acids which enter into the composition of proteins and cannot therefore be regarded as substances foreign to the body; whereas the benzene ring of foreign aromatic compounds, with very few exceptions, are left intact, and such compounds require to be rendered innocuous by being combined with sulphuric acid to form aromatic sulphates, or with glycocoll to form the acids of the hippuric group and so combined are excreted in the urine and got rid of. The few exceptions referred to are compounds which so closely resemble the protein fractions in their structure that they fall victims with these to the normal destructive processes.

The great strides which recent years have witnessed in the sciences of chemical physiology and pathology, the newly-acquired knowledge of the constitution of proteins and of the part played by enzymes in connexion with the chemical changes brought about within the organism, have profoundly modified our conceptions of the nature of the metabolic processes and have made it easier to understand how these changes may differ in the various genera and species. It was formerly widely held that many derangements of metabolism which result from disease were due to a general slackening of the process of oxidation in the tissues. The whole series of catabolic changes was looked upon as a simple combustion and according as the metabolic fires burnt brightly or burnt low the destruction of the products of the breaking down of food and tissues was supposed to be complete or imperfect. A very clear setting forth of such views will be found in the lectures of Bence Jones[2] on Diseases of Suboxidation, delivered and published in 1855, but the thesis in question is chiefly associated with the name of Bouchard,[3] who expounded it in his well-known lectures on Maladies par Ralentissement de la Nutrition, published in 1882. The so frequent clinical association of such maladies as gout, obesity, and diabetes was involved in its support, nor was it regarded as a serious obstacle to the acceptance of such views that there is but scanty evidence to show that failure to burn any particular metabolic product, such as glucose, is associated with inability to deal with others.

Nowadays, very different ideas are in the ascendant. The conception of metabolism in block is giving place to that of metabolism in compartments. The view is daily gaining ground that each successive step in the building up and

[1] Hofmeister's Beiträge, 1902, Band ii., p. 143.

[2] Medical Times and Gazette, 1855, vol. ii., pp. 29–83.

[3] Maladies par Ralentissement de la Nutrition, Paris, 1882.

breaking down, not merely of proteins, carbohydrates, and fats in general, but even of individual fractions of proteins and of individual sugars, is the work of special enzymes set apart for each particular purpose. Thus the notion of general suboxidation is reduced to very narrow limits, to the recognition of a controlling influence exercised by certain glandular organs, such as the thyroid, upon metabolism as a whole. For example, it is known that lævulose is not dealt with in the human organism in the same way as dextrose is but follows its own path. A patient whose power of burning dextrose is seriously impaired may yet utilise lævulose in the normal manner. Again, there is evidence to show that the several fractions of proteins, tyrosin, cystin, tryptophane, and the rest, do not merely serve as fuel for a common furnace but are dealt with each in a special manner and in successive stages.

It may well be that the intermediate products formed at the several stages have only momentary existence as such, being subjected to further change almost as soon as they are formed; and that the course of metabolism along any particular path should be pictured as in continuous movement rather than as series of distinct steps. If any one step in the process fail the intermediate product in being at the point of arrest will escape further change, just as when the film of a biograph is brought to a standstill the moving figures are left foot in air. All that is known of the course of catabolism tends to show that in such circumstances the intermediate product in being is wont to be excreted as such, rather than that it is further dealt with along abnormal lines. Indeed, it is an arguable question whether, under abnormal conditions, the metabolic processes are ever thrown out of their ordinary lines into entirely fresh ones, with the result that products are formed which have no place in the normal body chemistry. It is commonly assumed that this happens, but if the conception of metabolism in compartments, under the influence of enzymes, be a correct one, it is unlikely, *a priori*, that alternative paths are provided which may be followed when for any reason the normal paths are blocked. It is far easier to suppose that in such circumstances normal intermediate products are excreted without further change and that processes which in health play but small parts in metabolism are called into unwonted activity.

This conception of the permanency of the metabolic paths is no new one, for it may be read between the lines in the writings of some physiologists of the last century, and especially in those of Claude Bernard,[4] from which the following passage is translated:—

> It used to be supposed that in diabetes wholly new conditions were developed in the economy, under the influence of the morbid state, and that there resulted therefrom a special morbid product—namely, glucose. But it is admitted nowadays that the observed phenomena are to be explained by an augmentation, pure and simple, of a normal function in virtue of which glucose is formed in all subjects, even in health. It is clear that the malady is nothing more than a physiological phenomenon perturbed and exaggerated.

Still more striking is the following passage[5]:—

> Et maintenant oserait on soutenir qu'il faut distinguer les lois de la vie à l'état pathologique des lois de la vie à l'état normal? Ce serait vouloir distinguer les lois de la mécanique dans une maison qui tombe, des lois de la mécanique dans une maison qui tient debout.

To prove the truth of the contention put forward it would be necessary to show that every abnormal product found in the tissues or in the excreta, und r morbid conditions, can be ascribed to other causes than the deflexion of the metabolic processes into new and unwonted paths. It must be admitted that this cannot yet be asserted of all such products. For example, we are still ignorant of the parent substance and mode of origin of the remarkable Bence Jones protein which is excreted in the urine of patients with multiple myeloma, nor is there any evidence as yet forthcoming that it is a normal intermediate product of protein metabolism. Nevertheless, when an endeavour is made to classify the unusual constituents which are occasionally present in that most important animal excretion, the urine, it is found that there are few of them which cannot be accounted for as intermediate products incompletely burnt, or as exaggeration of traces normally present; if we exclude such as are merely foreign substances absorbed from the alimentary canal or derivatives of these, or are products of bacterial life and action in the intestines or in the tissues.

A number of unusual constituents of urine, and of normal constituents also, are derived from the alimentary canal. Thus foreign substances administered in food or as drugs may be excreted unchanged or may undergo oxidation or reduction in the intestine or after absorption, or again may appear in the urine in combination with products of metabolism. These last compounds, which result from the working of the chemical protective mechanisms, cannot be regarded as abnormal excreta. Even in health some tenth part of the total sulphuric acid of the urine is in combination with aromatic substances as ethereal sulphates. Traces of compound glycuronates are also normally present, and the aromatic constituents of vegetable foods are in part excreted in combination with glycocoll as hippuric acid and its allies. When other harmful substances, with which these protective mechanisms are competent to deal, are introduced in abnormal quantities the protective processes are stimulated to unwonted activity.

It does not necessarily follow that the substances which are utilised for such combinations are themselves intermediate products of normal metabolism, for it may well happen that combination has preceded oxidation. Thus the glycuronic acid which is excreted in compound glycuronates may not represent an intermediate stage in the breaking down of glucose as it has been supposed to do, for, as Emil Fischer has pointed out, the oxidation of the alcohol grouping of dextrose, whilst the less stable aldehyde grouping remains intact, is more easily explained on the supposition that the primary combination of the foreign substance is with glucose itself, and that, the aldehyde group being thus protected from change, oxidation to glycuronic acid occurs as a subsequent event.

Some excreta are due to the action of bacteria in the alimentary canal upon the proteins of food or upon constituents of the bile. Thus urobilin is formed by the intestinal bacteria from bilirubin and is abundantly present in the fæces so long as bile enters the intestine. From the intestine some urobilin is absorbed and is excreted in part in the bile and in part in the urine, whilst some of it is probably destroyed in the tissues. Again, from the tryptophane of ingested proteins the intestinal bacteria form indol, which after absorption is oxidised to indoxyl and is excreted in the urine, mainly as indoxyl sulphate, but in part in combination with glycuronic acid. Disease of the actual organs of excretion has conspicuous effects upon the excreta. Thus diseased kidneys may hold back in part some constituents of the urine or, on the other hand, may allow passage to the normal proteins of the blood serum which it is their function to retain in the circulation. Again, by the blockage of a duct, as in jaundice, the products of glandular activity may be thrown back into the blood and appear in the urine, but the presence of such abnormal constituents is in no sense due to errors of metabolism.

Actual derangements of the metabolic processes follow almost any deviations from the normal health, but our interpretation of the urinary changes which result is in many instances greatly hampered by the scantiness of our knowledge of the intermediate steps of the paths of metabolism. Such knowledge as we have of these steps is derived from casual glimpses afforded when, as the outcome of one of Nature's experiments, some particular line is interfered with, and intermediate products are excreted incompletely burnt. Many of the substances which rank as abnormal constituents are present in traces in normal urine as by-products of the metabolic processes, and it may safely be assumed that we are not cognisant of all the traces which so occur. Exceptional methods will reveal traces previously unsuspected. Thus Dombrowski, working with enormous volumes of normal urine (100 litres), was able to demonstrate the presence of minute quantities of cadaverin; and that very delicate instrument the spectroscope reveals traces of hæmatoporphyrin in normal urine which would escape detection by rougher means. Only recently it has been shown that certain sulphur-containing acids, previously unknown, occur in no inconsiderable quantities in normal urine, and even now we do not know with any certainty all the constituents which go to make up the so-called neutral sulphur and residual nitrogen.

The effects of disease of the great laboratory glands, of which the liver is the chief, upon the chemical processes of which they are the seats, are less conspicuous than might be expected. This is perhaps due to the power of a small intact residue of an organ to carry on the functions of the whole,

[4] Pathologie Expérimentale, second edition, 1880, p. 15.
[5] Ibid., p. 568.

nor must it be forgotten that any very grave interference with the metabolic activities of the liver is incompatible with life. On the other hand, the phenomena of exophthalmic goitre and of myxœdema bear witness to the profound effects of atrophy or disease of a gland which exerts a controlling influence over the metabolic processes as a whole. Some abnormal constituents of urine are believed to be products of undue breaking down of tissues, of autolysis *intra vitam*. Such an origin is now usually ascribed to the tyrosin and leucin excreted in acute yellow atrophy of the liver, and to the albumoses met with in urine.

There is a group of maladies in which metabolic disturbances are by far the most conspicuous features, whereas the structural changes behind them are scanty or even inappreciable. Of such "diseases of metabolism," diabetes, gout, and obesity are the most important. It is still uncertain how far the accumulation of uric acid in the blood and the deposition of sodium biurate in the tissues which are the characteristic features of gout, are actually due to derangement of metabolism, as distinct from a mere excretory defect. In diabetes mellitus, under which name we probably include more than one morbid condition attended by persistent glycosuria, the metabolic derangements, primary and secondary, dominate the clinical picture. At the outset sugar may be excreted in very small quantity and only after a meal rich in carbohydrates; at a later stage the glycosuria tends to become continuous and the percentage of glucose in the urine rises until, in grave cases, the excretion almost ceases to be controlled by diet and the tissue proteins are called upon to supply sugar. By the destruction of fats and proteins the acetone bodies and especially β-oxybutyric acid are formed in increasing amounts, and to them the fatal ending is commonly attributed at the present day, although the accumulation of unburnt glucose in the blood is itself productive of serious evils. The liability to develop diabetes or gout is often inherited but the diseases themselves are not inherited, for they are never congenital. Developing at any period of life, the mischief, once begun, tends to become aggravated as time goes on, but the rate of aggravation differs widely in individual cases and is often conspicuously controlled by appropriate treatment.

Quite unlike that of the above metabolic diseases is the course of the anomalies of which I propose to treat in these lectures and which may be classed together as inborn errors of metabolism. Some of them are certainly, and all of them are probably, present from birth. The chemical error pursues an even course and shows no tendency to become aggravated as time goes on. With one exception they bring in their train no serious morbid effects, do not call for treatment, and are little likely to be influenced by any therapeutic measures at our disposal. Yet they are characterised by wide departures from the normal of the species far more conspicuous than any ordinary individual variations, and one is tempted to regard them as metabolic sports, the chemical analogues of structural malformations. It is interesting to note that as far back as the earlier years of the nineteenth century, one of them, albinism, was classed by Mansfeld[6] and by Meckel[7] as a "Hemmungsmissbildung" or malformation by arrest.

It may be pointed out that the epithets inborn and congenital are by no means synonymous. Structural abnormalities may be present at birth which owe their origin to intra-uterine disease or intra-uterine injury and are in no sense developmental errors. Again, an infective disease may be congenital but cannot be inborn. It has merely been acquired in utero. Even true developmental errors are of several distinct kinds. In some there is malposition or transposition of organs, partial or complete; in others doubling of parts or inclusion of twin structures. Some structural anomalies are malformations by excess such as polydactyly, and some are malformations by defect, such as absence of the middle phalanx of each digit. In one large class, the so-called malformations by arrest, the process of development meets with a check and some portion of the body is left unfinished. To this group belong such abnormalities as hare lip, cleft palate, and spina bifida. Speaking of such arrests Professor J. A. Thomson writes:[8] "These abnormalities occasionally recur repeatedly in a family tree, but it seems probable that what is really inherited is a deficiency in 'developmental vigour' accentuated by nutritive defects on the parts of the mothers during the period of gestation." No extraneous causes, such as intra-uterine injury or disease, can be assigned to the metabolic errors which are under discussion. As far as our present knowledge of them enables us to judge they apparently result from failure of some step or other in the series of chemical changes which constitute metabolism, and are in this respect most nearly analogous to what are known as malformations by defect. It is not only in the field of metabolism that inborn derangements of function are met with, and Daltonism and night-blindness may be quoted as examples of such anomalies having no obvious chemical basis.

At first sight there appears to be little in common between inborn derangements of function and structural defects, but on further consideration the difference is seen to be rather apparent than real. Almost any structural defect will entail some disorder of function; sometimes this is almost inappreciable, but, on the other hand, the resulting functional disorder may be so conspicuous that it completely overshadows the defect to which it is due. Very slight structural changes may lead to profound functional derangements, as witness the effects of atrophy of the thyroid gland, whether congenital or acquired in later life, and the stormy metabolic disorders which may ensue upon comparatively insignificant morbid changes in the pancreas. By selective breeding there has been produced a race of waltzing mice, but their bizarre dance is merely the functional manifestation of an inborn and hereditary malformation of the semicircular canals. In the same way beneath each chemical sport may well exist some abnormality of structure so slight that it has hitherto escaped detection. Among the complex metabolic processes of which the human body is the seat there is room for an almost countless variety of such sports, but the examples which can be adduced are very few in number. Indeed, up to now the only known anomalies which can, with any good show of reason, be assigned to this class are albinism, alkaptonuria, cystinuria, and pentosuria, and even as regards these the reasons for their inclusion in the group are not of equal cogency.

We should naturally expect that among such abnormalities those would earliest attract attention which advertise their presence in some conspicuous way, either by some strikingly unusual appearance of surface tissues or of excreta, by the excretion of some substance which responds to a test habitually applied in the routine of clinical work, or by giving rise to obvious morbid symptoms. Each of the known inborn errors of metabolism manifests itself in one or other of these ways, and this suggests that others, equally rare, which do not so advertise their presence, may well have escaped notice until now. One man in 20,000 whose urine of 24 hours habitually contained a few grammes of aspartic acid might well be overlooked. Theoretically any anomaly which claims a place in the group should be present from birth and should persist throughout life, but it must be confessed at the outset that this cannot as yet be definitely asserted of all the four metabolic errors which I have mentioned. Some of them produce no obvious effects which compel attention, and may only be accidentally detected in adult life, and neither the evidence of the patient himself nor that of his parents can be of any help in endeavouring to trace back the peculiarity to infancy.

That albinism is congenital and persists through life is self-evident and admits of no dispute, for the condition is as obvious as any structural malformation and much more so than many such. Its rarity in man is also evident, although by artificial selection it may be reproduced indefinitely in lower animals.

As regards alkaptonuria its lifelong persistence is equally well established, although it may be that this error, which is in the great majority of instances inborn, may occasionally occur as a temporary phenomenon in disease. The remarkable staining property of alkapton urine allows of its recognition at the very beginning of life, and I have been able to obtain reliable evidence with regard to two cases that the staining of clothing was noticed on the second day of life, and in one of these instances had an opportunity of examining some urine passed during the first ten days after birth.[9] On the other hand an individual who exhibits the anomaly may

[6] Archiv für Anatomie und Physiologie, 1826, p. 96.
[7] Handbuch der Pathologischen Anatomie, 1816, Band ii., 2, p. 3.
[8] Heredity, London, 1908, p. 289.

[9] THE LANCET, Nov. 30th, 1901, p. 1484; Transactions of the Royal Medical and Chirurgical Society, 1902, vol. lxxxv., p. 69.

reach adult life without being aware of any special peculiarity of his urine and the condition may only attract attention when he is an applicant for life insurance or comes under treatment on account of some illness. Winternitz [10] has recorded the interesting fact that the mother of seven children, three of whom were alkaptonuric, was convinced that whereas two of her children had passed alkapton urine from the earliest days of life, this had not been the case with the youngest child, in whom she had only noticed the peculiarity from the age of five years. Such information supplied by a mother familiar with the symptoms of alkaptonuria carries as much weight as any hearsay evidence can carry, but nothing short of actual chemical examination of the urine would suffice to prove a point of so much importance.

Turning now to cystinuria, the evidence of its congenital occurrence is much more difficult to obtain, for this anomaly is little likely to attract attention in a young infant. Seeing that cystinuria is not infrequently transmitted from parent to child, examination of the urine of the infant children of those who manifest the peculiarity offers the most likely means of settling the point. That it may be present in early childhood there is abundant evidence to show. The first cystin calculus ever examined [11] was taken from the bladder of a child of five years. Abderhalden [12] has placed on record the detection of cystinuria in two children of the same family at the ages of 21 months and 14 months respectively, and Ultzmann [13] the case of a child of two with a cystin calculus who had exhibited symptoms of stone from the age of 12 months. Not a few cases in older children have been described. As affording evidence of the long persistence of cystinuria a case which came under the observation of the late Sir Henry Thompson [14] may be quoted that of an old man, aged 81 years, for whom a cystin calculus was crushed, and who had passed a stone of the same nature 39 years previously. There is reason to believe that cystinuria, like alkaptonuria, is occasionally temporary or intermittent.

No direct evidence of the congenital occurrence of pentosuria, the latest discovered and least known member of the group, is yet forthcoming, and its inclusion is to be justified on other grounds. That it may persist unchanged for years is certain, but the youngest pentosuric yet observed was a boy aged 15 years.[15]

It is probable that the rarity of albinism in man, of which each of us is able to judge from personal observation, is no greater than that of the other inborn errors. My belief is that cystinuria is decidedly the least rare of the four, but C. E. Simon [16] met with only one cystin sediment among some 15,000 urines examined, and Primavera [17] one in 20,000 urines. Another feature which all four anomalies share in common is their more frequent occurrence in males than in females. Of 38 cases of alkaptonuria, presumably congenital, 31 were in males and only seven in females. Of 93 cystinurics collected from the records by Simon 63 were males and 30 females. Of 26 pentosurics, 19 were males and seven females. That males preponderate among albinos has often been stated, but among the cases collected by Ascoleo [18] in Sicily the disparity was comparatively slight, the numbers being 34 males and 28 females. It does not appear that there is any such unequal liability of the sexes to structural malformations, as far as can be judged from figures collected from the records of two hospitals, and in the remarkable family described by Farabee [19] in which many members exhibited a curious malformation by defect—namely, absence of the middle phalanges—the majority of the affected members were females. In a similar family recorded by Drinkwater [20] male cases slightly preponderated.

To be harmless is no essential attribute of an inborn abnormality, but it stands to reason that an error of metabolism which persists from birth into adult and even into advanced life must needs be relatively innocuous. Albinism, although inconvenient, is certainly harmless, and the most serious direct result of alkaptonuria is the peculiar pigmentation, a variety of ochronosis, which some of its subjects develop in later life. Evidence is accumulating of the harmlessness of pentosuria, and that the excretion of a sugar with five carbon atoms in its molecule has none of the sinister significance of glycosuria. Only cystinuria can be classed as actually injurious, but even its ill-effects, serious as they often are, are not due to the deranged metabolism as such but are secondary, and result from the unsuitability of so sparingly soluble a substance as cystin for excretion by way of a urinary apparatus constructed upon the mammalian plan. Even in the single recorded instances in which death may possibly have resulted from cystinuria, apart from urinary complications, that of an infant aged 21 months, which Abderhalden describes, the deposition of cystin in the tissues was the conspicuous lesion found at the necropsy.

There remains to be mentioned yet another feature which the abnormalities under discussion possess in common—namely, the liability for each of them to occur in several members of a family, most often in collaterals of the same generation. In this respect, of course, they do not stand alone. In connexion with many actual diseases, as well as with structural malformations, hereditary influences come into play, and among diseases with none more strikingly than with such metabolic disorders as diabetes and gout. Only when taken in conjunction with all the other common features which have already been discussed can their mode of incidence be adduced in support of the view here taken of their nature.

To the students of heredity the inborn errors of metabolism offer a promising field of investigation but their adequate study from this point of view is beset with many difficulties. Save in the case of albinism one is driven to rely upon the casual mating of human beings and the conclusions based thereon cannot be checked by experimental breeding of animals. It is true that cystinuria is known to occur in dogs. A calculus obtained from a dog was described by Lassaigne [21] in 1823, and other examples have since been recorded,[22] but hitherto the diagnosis has only been made after the death of the animal and no opportunity has presented itself of utilising this fact for the advancement of the study of the anomaly. Whether alkaptonuria and pentosuria occur among lower animals is unknown. If they do they are little likely to be recognised.

Again it is naturally far more difficult to collect information as to the occurrence of chemical than of structural anomalies in past generations of a family, save in the case of albinism and possibly of alkaptonuria. Even as regards the relative numbers of normal and abnormal members, a knowledge of which is so important in connexion with questions of heredity, the information available is scanty and unreliable unless based upon personal examination. However, one point which stands out clearly is the remarkable similarity of the modes of incidence of alkaptonuria and albinism, which suggests that the manifestation of both is governed by the same laws. Both are apt to occur in several brothers and sisters of a family whose parents do not exhibit the anomaly and direct transmission of either from parent to child is very rare. It has been repeatedly stated that a considerable proportion of human albinos are the offspring of consanguineous marriages. Thus Ascoleo found that of 24 families which included 60 albino members five were the offspring of the mating of first cousins. In only two instances was albinism directly transmitted from parent to child. Of the cases of alkaptonuria, concerning which the necessary information is forthcoming, a very large proportion have been in children of first cousin marriages. In a paper published in 1902 [23] I called attention to this point and more recent cases, although they have somewhat lowered the proportion, have borne out the fact, as will be seen from the following table, in which the more recent cases have been incorporated.

[10] Münchener Medicinische Wochenschrift, 1899, Band xlvi., p. 749.
[11] Philosophical Transactions of the Royal Society, 1810, vol. c., p. 223.
[12] Zeitschrift für physiologische Chemie, 1903, Band xxxviii., p. 557.
[13] Wiener Medicinische Wochenschrift, 1871, Band xxi., pp. 286, 307.
[14] Transactions of the Pathological Society, 1870, vol. xxi., p. 272.
[15] Chobola: Centralblatt für Innere Medicin (abstract), 1907, Band xxviii., p. 864.
[16] American Journal of the Medical Sciences, 1900, vol. cxix., p. 39.
[17] Quoted by Piccini e Conti, Lo Sperimentale, 1891, vol. xlv., p. 353.
[18] Archivio per l'Anthropologia, 1871, vol. i., p. 367.
[19] Papers of the Peabody Museum of American Archæology and Ethnology, Harvard, 1906.
[20] Proceedings of the Royal Society of Edinburgh, 1908, vol. xxviii., p. 35.
[21] Annales de Chimie, 1823, 2e s., tome xxiii., p. 328.
[22] Gross, S.W.: North American Medico-Chirurgical Review, 1861, vol. v., p. 311.
[23] THE LANCET, Dec. 13th, 1902, p. 1616.

Families the offspring of first cousins.

Names of observers.	Number of alkaptonuric members.
1. Pavy	4
2. R. Kirk	3
3. Garrod	2
4. Erich Meyer	1
5. Ogden	1
6. Hammarsten	2
7. Grutterink and van der Bergh...	1
8. Cronvall	1
Number of families, 8.	15

Families of parents who were not blood relations.

Names of observers.	Number of alkaptonuric members.
1. W. Smith and Garrod ...	2
2. Ewald Stier	1
3. Noccioli and Domenici ...	1
4. Marshall and Futcher ...	3
5. Langstein and E. Meyer	1
6. Garrod and T. W. Clarke	1
7. Grutterink and van der Bergh...	2
8. ,, ,,	4
9. Schumm	1
Number of families, 9.	16*

* In some instances private information has supplemented the published records. For some of the more recent cases the required information is not forthcoming. The new references will be found in the bibliography of Lecture II.

Thus of 17 families eight were the offspring of first cousins and nine were the children of parents who were not related, and of the total of 31 cases 15 fall into the first group. There appears to be a close connexion between the occurrence of an anomaly in several children of normal parents and consanguinity of the parents, a connexion which has been emphasised by Feer [24] in a recent paper. No one would suggest nowadays that the mere fact that the parents are of one blood would cause an anomaly to appear *de novo* in their children but it is obvious that the reappearance of a latent character which both parents tend to transmit is likely to be favoured by the mating of members of certain families.

The statistics as to the proportion of first-cousin marriages in this country are very scanty. Sir George Darwin has calculated [25] that less than 3 per cent. of all marriages are of this class, and Professor Karl Pearson [26] has recently collected some figures which give a percentage of 4·9 first-cousin marriages among the professional classes, a figure which for reasons which he states he regards as probably somewhat too high, and 0·86 among the classes from which patients in London hospitals are drawn. The totals of consanguineous marriages of all degrees in the two classes were 7·76 per cent. and 1·3 per cent. respectively. Hence it is obvious that the proportion of such marriages among the parents of alkaptonuric families is altogether abnormal. On the other hand, the proportion of alkaptonurics among children of such marriages must be very small indeed. Only some 50 to 60 cases of alkaptonuria have been recorded in Europe and America, whereas in London alone there are probably many thousands of children of first cousins.

It was pointed out by Bateson,[27] and has recently been emphasised by Punnett,[28] that the mode of incidence of alkaptonuria finds a ready explanation if the anomaly in question be regarded as a rare recessive character in the Mendelian sense. Mendel's law asserts that as regards two mutually exclusive characters, one of which tends to be dominant and the other recessive, cross-bred individuals will tend to manifest the dominant character, but when they interbreed the offspring of the hybrids will exhibit one or other of the original characters and will consist of dominants and recessives in definite proportions. Mendel's theory explains this by the supposition that the germinal cells or gametes of each generation are pure as regards the qualities in question and accounts for the numerical results observed by the production of dominant and recessive gametes in equal numbers. Of the offspring of two hybrids, one quarter will result from the union of two dominant gametes and will produce such gametes only; another quarter will result from the union of recessive gametes and will produce only recessive gametes. The remaining half will themselves manifest the dominant character, but will be hybrids like their parents and will produce gametes of both varieties. Only when two recessive gametes meet in fertilisation will the resulting individual show the recessive character.

If the recessive character be a rare one many generations may elapse before the union of two such gametes occurs, for the families in which they are produced will be few in number and the chance that in any given marriage both parents will contribute such gametes will be very small. When, however, intermarriage occurs between two members of such a family the chance will be much greater, and of the offspring of such a marriage several are likely to exhibit the peculiarity. The rarer the anomaly the more conspicuous should be the influence of consanguinity. When a recessive individual mates with an apparent dominant who produces gametes of both kinds a larger proportion of the offspring will be recessives, and we should expect that recessive children of a recessive parent, but whose other parent is apparently normal, will occasionally be met with. Of such direct transmission of alkaptonuria from parent to child, the other parent not being alkaptonuric, two examples are known. One of these was observed by Osler.[29] An alkaptonuric father whose brother also showed the anomaly had an alkaptonuric son. The second case, which was recorded by Ossi,[30] was that of a mother and her son and daughter, all alkaptonuric. Lastly, when recessive mates with recessive all the offspring should manifest the recessive character, but no such marriage of alkaptonurics is known to have occurred. Whereas in animals, such as mice, which produce a numerous progeny, the proportions of dominants and recessives among their offspring can be readily observed, the results of the chance matings of human beings, who are so far less prolific, are far less demonstrative.

It must be confessed, indeed, that as regards human characteristics the relative numbers of dominant and recessive offspring have often departed widely from these required by Mendel's law, but a number of sources of error will tend to vitiate such results. Experience has shown that the information supplied as to the normality or otherwise of other members of a patient's family can seldom be relied upon, and this is especially the case with chemical anomalies. An individual in middle life seldom knows much about his brothers and sisters who died in infancy. Miscarriages must be taken into account, and again the figures supplied may relate to incomplete families and may be profoundly modified by subsequent births. For the above reason little importance is to be attached to the figures available with regard to alkaptonuria, but those contained in the following table, which relate to 17 families, are given for what they are worth :—

—	Observers.	Total number in family.	Normal members.	Alkaptonuric members.
Family No. 1	F. W. Pavy.	14	10	4
,, 2	Noccioli e Domenici.	10	9	1
,, 3	Ogden.	8	7	1
,, 4	Zimper.	8	6	2
,, 5	Winternitz.	7	4	3
,, 6	Langstein and E. Meyer.	6	5	1
,, 7	Schumm.	6	4	2
,, 8	Garrod.	5	3	2
,, 9	R. Kirk.	4	1	3
,, 10	Bandel.	4	2	2
,, 11	Hammarsten.	4	2	2
,, 12	W. Smith and Garrod.	3	1	2
,, 13	Baumann and Embden.	2	0	2
,, 14	Ewald Stier.	2	1	1
,, 15	Erich Meyer.	1	0	1
,, 16	Garrod and Clarke.	1	0	1
,, 17	Cronvall.	1	0	1
Totals		86	55	31

Although the totals show that the normal members largely preponderate they do not approach the requirements of Mendel's law, according to which a recessive character should

[24] Jahrbuch für Kinderheilkunde, 1907, vol. lxvi., p. 188.
[25] G. Darwin: Journal of the Statistical Society, 1875, vol. xxxviii., p. 153.
[26] K. Pearson: Brit. Med. Jour., 1908, vol. i., p. 1396.
[27] Report of the Evolution Committee of the Royal Society, 1902, No. 1, p. 133, note.
[28] Proceedings of the Royal Society of Medicine, 1908, vol. i., p. 148.
[29] See Garrod, THE LANCET, Dec. 13th, 1902, p. 1617.
[30] Gazzetta Medica Lombarda, 1889, vol. xlviii., p. 115.

appear in one quarter of the offspring; the alkaptonurics should number 21 or 22 instead of 31. It is clear that the figures as they stand are not fair to Mendel, for in the last three families the affected members were only children, and in families 15 and 16 might be classed as first hildren. One would expect to obtain a more accurate estimate by confining our attention to the larger families, and it is noteworthy that if one takes families 1 to 8, each containing five or more children, the totals work out in strict conformity to Mendel's law, in the proportions 4 : 3 : 1. However, to draw the line at families of five and upwards is a purely arbitrary proceeding.

The patients of Baumann and Embden were a brother and sister born out of wedlock, but it is not quite clear from the record whether they were the only children of the union. Both parents subsequently married away and had children, none of whom were alkaptonuric. Two recorded alkaptonurics were twins and in one case the second twin was certainly and in the other was probably normal.[31] In each instance the normal twin died and the alkaptonuric survived. The twins were of the same sex in both cases.

It appears to me that the strongest argument which can be adduced in favour of this view that alkaptonuria is a Mendelian recessive character is afforded by the fact that albinism, which so closely resembles it in its mode of incidence in man, behaves as a recessive character in the experimental breeding of animals.[32] Nor do the figures quoted by Bateson[33] relating to the proportion of albino members in human families show any more close conformity to the requirements of Mendel's law than do those above quoted for alkaptonuric families.

Evidence is accumulating of the occurrence of pentosuria in brothers and sisters,[34] and no instance of its transmission from parent to child has yet been recorded. Of consanguinity of parents of the subjects of this abnormality nothing is yet known. There is some evidence of a special liability of the Jewish race.

The available evidence regarding the inheritance of cystinuria is much more scanty than that relating to alkaptonuria. This is largely due to the less obvious character of the anomaly, for it is only by careful examination of the urine of each member of a family that any certainty can be reached as to the numbers of cystinuric and normal members. A cystinuric does not necessarily form calculi, and at any given time his urine may deposit no crystals, nor are the statements of patients as to other members of their families of any value in this connexion save that a history of several cases of stone may be suggestive. Such information as is forthcoming points to a greater frequency of direct transmission from parent to child than is met in connexion with the other metabolic errors, and cystinuria has been traced with certainty in three successive generations. Thus in the family investigated by Abderhalden the paternal grandfather and father were cystinuric, whereas the mother was normal. Of five children one had died with symptoms of inanition at 21 months and deposits of cystin were found in its tissues; two others had died with like symptoms at nine and 17 months respectively, but were not known to excrete cystin. The surviving children, aged five and a half years and 14 months respectively, were both cystinuric. Such large proportion of cystinuric members as was here met with has been observed in other families. In one which Cohn[35] described a cystinuric mother and a normal father had 12 children. The urine of two of them could not be obtained, but of the remaining ten no less than seven excreted cystin. Again, Pfeiffer[36] records four children of normal parents who were, as he has informed me, first cousins, all of whom were cystinuric. The two children of one of the affected daughters were normal. The frequency of direct inheritance and the large proportion of the offspring affected suggest that if cystinuria be transmitted on Mendelian lines it is probably a dominant rather than a recessive characteristic.

[31] Noccioli e Domenici: Gazzetta degli Ospedali, 1898, vol. xix., p. 303. D. Gerhardt: Münchener Medicinische Wochenschrift. 1904, Band li., p. 176.

[32] Castle and Allen: Proceedings of the American Academy of Arts and Sciences, 1903, vol. xxxviii., p. 603.

[33] Brit. Med. Jour, 1908, vol. i., p. 1252.

[34] Brat: Zeitschrift für Klinische Medicin, 1902, Band xlvii., p. 499. Bial: Berliner Klinische Wochenschrift, 1904, Band xli., p. 556, and others.

[35] Berliner Klinische Wochenschrift, 1899, Band xxxvi., p. 503.

[36] Centralblatt für Krankheiten der Harn- und Sexual-Organe, 1897, Band viii., p. 173.

Hitherto we have been considering these inborn errors of metabolism collectively, the points which they have in common, and the grounds for regarding them as constituting a distinct group of anomalies. But each one of them presents peculiar features of much interest which amply repay detailed consideration, if only on account of the light which their study throws upon the chemical processes at work in the normal human organism.

ALBINISM.

Of albinism I propose to speak very briefly, for its study from the chemical side has scarcely begun. In the fairly extensive literature of the subject much space is devoted to the ocular troubles which are connected with it; some authors have treated of its hereditary aspects; the question whether albinism carries with it any impairment of bodily or mental powers has been widely discussed but the actual nature of the anomaly has hardly been touched upon. Clearly it is an abnormality of a different kind from the others here under discussion which manifest themselves by errors of excretion. In albinism there is a defect of substances which are normal constituents of certain specialised tissues and which serve purposes of much utility to the organism. It is not necessary to enter upon any discussion of the question whether it should be classed as an error of anabolism or of catabolism. The work of F. G. Hopkins[37] upon the utilisation of excretory products in ornament, as exemplified in the employment of uric acid in the pigmentation of white butterflies of the genus Pieris, is of interest in this connexion, but it is probable that in insects, as in birds and reptiles, the excreted uric acid is largely formed by synthesis, as the breaking-down of nuclein does not provide an adequate source for the yield.

The essential phenomenon of albinism is the absence of the pigments of the melanin group which play the chief part in the colouration of man and lower animals and which serve the important function of rendering the eye a dark chamber. There are various kinds of melanins, but all alike are wanting in albinos, as witness the white hair, pink eyes, and unpigmented skin which characterise such individuals. Pigments of other kinds are not wanting, such as the lipochromes which impart their yellow tints to fats and blood serum, and hæmoglobin and its derivatives. In the urine of albinos I have found the same pigments as are ordinarily present. The fact that albinos of certain birds, such as the peacock, which are normally characterised by the brilliancy of the colouring of their plumage, are quite white, does not invalidate the truth of this statement. Their brilliant tints are interference colours, due to physical structure and not to pigmentation, and the absence of such colours is merely due to the lack of a dark background for their display, and such a background the melanins with their sombre hues provide. In the feathers of the albino peacock the iridescent tints are faintly visible in certain lights.

Our knowledge of the chemistry of melanins is still very imperfect. Their sulphur content varies widely; some contain iron, others do not. The presence of iron has been held to indicate an origin from hæmoglobin, but the trend of opinion at the present day is towards the view that they are derived from proteins in general, perhaps by the action of a tyrosinase upon tyrosin, and that the natural melanins are allied to the melanoid substances which are formed during the hydrolysis of proteins. If, as has been suggested, white hair contains a white chromogen and is pigmented and not merely devoid of colour; if also this is true of albino hair as well as that of white animals not albinos, we may suppose that the chromogen merely fails to be converted into the dark pigments in the ordinary way.

Three possible explanations of the phenomenon of albinism suggest themselves. We might suppose that the cells which usually contain pigment fail to take up melanins formed elsewhere; or that the albino has an unusual power of destroying these pigments; or again that he fails to form them. Some experiments of Kobert,[38] who injected solutions of melanin into rabbits, seem to negative the notion of an unusual destructive power. The animals excreted melanin, or rather its chromogen melanogen, in their urine. Kobert mentions that some of the animals injected were albinos, but

[37] Philosophical Transactions of the Royal Society, 1895, clxxxvi., B. p. 661.

[38] Ueber Melanine, Wiener Klinik, 1901, Band xxvii., p. 99.

does not say that they behaved any differently in this respect from the pigmented rabbits. The injection caused no pigmentation of the hair or eyes of albino rabbits, nor is it to be expected that it would do so whichever of the above hypotheses be correct. It is very unlikely that the melanin is conveyed to the pigmented cells and there deposited, for all the evidence available indicates that the pigment is formed *in situ*, probably by the action of intracellular enzymes. If the melanin were formed in albinos and merely not utilised we should expect it to be excreted by them in the urine, which is not the case. Only certain specialised cells appear to have the power of forming melanin, and in cases of melanotic sarcoma these are enormously multiplied, and there is a correspondingly increased production of pigment which may find its way into the blood and be excreted in the urine. Such an increase is only to be explained on the supposition that the pigment is actually formed in the tumour cells. In favour of this view is also the fact that melanotic tumours apparently originate only in structures in which melanins are normally present, such as the eye and skin, and possibly in the pineal gland, which as a vestigial remnant of the pineal eye of certainly lowly animal forms may retain some pigment forming power.

The hypothesis of local formation also supplies the easiest explanation of the phenomena of partial or local albinism, such as is seen in the Himalayan rabbit, which has the pink eyes of an albino but the hair of which is always pigmented at certain points. The partial albinism seen in man, in which the hair retains a certain amount of colour, and especially the rare form in which red hair is associated with pink eyes, a variety which has been met with in one albino of several in a family, the others conforming to the ordinary type,[39] is a phenomenon calling for careful investigation.

The ordinary physiological causes of pigmentation are not operative in albinos. In them exposure to the sun does not cause the usual tanning of the skin which is seen in normal individuals; a mere hyperæmia results. It has also been observed that in female subjects the pigmentation of the areolæ of the nipples and of other parts, which usually accompanies pregnancy, is not developed.[40] I know of no observations on the occurrence in albinos of tumours originating in the eye and running the course of melanotic sarcomata. One would expect that such growths, if they occur, would fail to be pigmented. Nor does there appear to be any record of Addison's disease occurring in such subjects which might throw important light upon the question whether the Addisonian pigment is a true melanin. Taking all the known facts into consideration, the theory that what the albino lacks is the power of forming melanin which is normally possessed by certain specialised cells is that which has most in its favour and is probably the true one. If so, an intracellular enzyme is probably wanting in the subjects of this anomaly, an explanation which, as we shall see later, brings albinism into line with some other inborn metabolic errors, of which a similar explanation is at least a possible one.

I must not omit to mention that there are indications that the differences between albinos and normal individuals are not confined to the absence or presence of melanins in the tissues. In animals differences have been observed in the matter of liability to certain infections, and clinical observations of the incidence of infective diseases upon human albinos would be of considerable interest. Halliburton, Brodie, and Pickering[41] found that intra-vascular injections of nucleo-proteins failed to produce in albino animals such clotting as they cause in pigmented ones. G. R. Mudge,[42] who has carried out a number of such experiments, found that all albinos do not behave alike in this respect. Differences were also observed between the results of the injection of nucleo-proteins derived from albino and pigmented animals respectively. He arrived at the conclusion that an albino animal requires a larger dose of nucleo-protein per kilogramme of body weight to cause death by intra-vascular clotting. Pickering's[43] remarkable observation that the Norway hare when in its winter coat behaves as an albino when injected with nucleo-protein, but in its summer coat as a pigmented animal, opens up the most interesting question of the relation, if any, of the change of coat in Arctic animals to albinism.

It will be clear from the above fragmentary sketch that even the lines along which the systematic study of albinism may profitably be directed are only beginning to indicate themselves. The carrying out of such a research remains as a task for future workers.

[39] Folker: THE LANCET, May 31st, 1879, p. 795. Nettleship: Transactions of the Ophthalmological Society, 1906, vol. xxvi., p. 244.
[40] B. W. Richardson: Dublin Hospital Gazette, 1856, vol. iii., p. 73.
[41] Journal of Physiology, 1894, vol. xvii., p. 148.
[42] Proceedings of the Royal Society, 1907, Series B., vol. lxxix., p. 103.
[43] Journal of Physiology, 1896, vol. xx., p. 310.

ON THORACOSTOMY IN HEART DISEASE.

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IN a paper published in THE LANCET of July 28th, 1906, and read before the Æsculapian Society of London on April 30th in the same year, I considered the circumstances of the normal growth and action of the heart and the manner in which hypertrophy of the organ is influenced by its adhesion to the pericardial sac and extraneous structures. I remarked in conclusion: "To return to our embryo, the growing organ requires a surplus of room to grow in; the overgrown organ requires more room to work in, and it may be that tethered by extraneous adhesion or not so restricted the hypermyotic heart may in the future, and in some cases, be provided with such by the genius and courage of some surgeon bold enough to undertake the task" (p. 212).

I was not aware until I read Professor Wenckebach's paper on Some Points in the Pathology and Treatment of Adherent Pericardium in the *British Medical Journal* of Jan. 12th, 1907, that Professor Brauer, at that time of Heidelberg, had induced Professor Petersen and Dr. Simon to perform an operation for the relief of cardiac motion in such cases with success so long ago as 1903,[1] and had termed his operation cardiolysis. Dr. William Mackenzie of Melbourne, unaware, like myself, of Brauer's work in cardiolysis, gave very definite instructions for a proposed operation for freeing the heart from costo-pericardial adhesions in the *Intercolonial Medical Journal* of Sept. 20th, 1906. Dr. Mackenzie even advocated removal of a portion of sternum as well as the ribs, a procedure which Dr. Simon adopted in two of Brauer's cases.

It is a subject which has long interested me and in my book on "Cardiac Failure," published in 1897, I had suggested the severing of pericardial adhesions for the relief of cor bovinum which, I stated, would be "an ideal triumph of modern surgery" (p. 88). A reviewer of my book remarked that I had in any case exhibited a "triumph of the imagination," but appeared to be of opinion that the safety of mankind would be consulted by my suggestion not being taken seriously. Since then there has, however, been a growing conviction in my mind that it was less the tethering of the heart than its *bulk* and force of systole which were the determining factors in the situation and that operation to afford room adequate for the free action of the enlarged organ was the primary consideration whether the organ itself were tethered or not. One has so often observed post mortem a large muscular heart usually associated with aortic valvular disease and without extraneous adhesion, succumb to the mechanical difficulty, while possessing apparently an amount of wholesome muscle which one would, *a priori*, have imagined should have contended with the obstacle in the circulation for a much longer period had it not been exhausted by some other cause.

Brauer's suggestion that the adhesions in adhesive pericarditis should be left alone and the incarcerated heart freed from bony encasement, together with the successful issue of the operations consequent on his suggestion, pointed the way to a wider application of his method. Whether the term "cardiolysis" would be the most appropriate one to designate an operation which had to do, not with loosening the heart from adhesion, but with providing the overgrown organ with more room, and saving it the shock of impact against bone, may be questioned. Thoracostomy is, perhaps, too general a term to indicate its special application to the relief of intra-thoracic pressure exerted upon the heart, or induced by a large and powerfully pulsating organ confined within the

[1] Archiv für Klinische Chirurgie, vol. lxxi.

thorax, because, as we know, thoracostomy may be employed for various conditions not directly due to cardiac causes. But, qualified by words denoting its special application in particular cases, there seems no insuperable objection to the substantive use of a more general term. I have preferred, therefore, in the following paper, to use the phrase thoracostomy in heart disease, to the more specific cardiolysis of Brauer.

In a paper published in THE LANCET of August 24th, 1907, which, like that on Pericarditis, had also been previously read before the Æsculapian Society, I further emphasised the principle of operative interference to relieve intrathoracic pressure, both when the mere bulk of the organ was the chief feature in the case and when, as in irremoveable mediastinal tumour, the heart was secondarily involved in the neoplastic growth. I referred in that paper, but without giving details, to a case of the latter kind then under my care in which thoracostomy with this object had been performed with benefit, on my suggestion, by my colleague Mr. Ewen C. Stabb. I had not, however, at that time had an opportunity of applying the principle, as I contemplated doing, to the much more important, because more frequently occurring, cases and those more amenable to treatment, in which *size* of heart, with or without adhesions, was the principal feature of the case, but closed the paper with the following words: "The question arises, whether mere bulk is not a disadvantage in these circumstances, and whether, therefore, the justification does not arise for attempting to relieve pressure by the removal of a portion of the ribs and cartilages in the precordia, in obedience to the indications given by the precordial bulging of children, even when it may be assumed that pericardial tethering is absent. I think personally we shall soon be justified in this matter in following John Hunter's advice to Jenner, when the latter was too timid to vaccinate, but thought he might do so with safety. 'Why think,' said Hunter, 'Do it.' I believe we shall also in this matter be able to 'do it' with safety and benefit, both to patients and our own reputation" (p. 508). Since then an operation for the relief of cardiac pain associated with an enlarged heart in a case of double aortic valvular disease under my care has been performed, again by Mr. Stabb, and certainly so far with very encouraging and, indeed, interesting results. Before, however, relating this case more fully, some remarks upon method may be made.

In Brauer's first case, which was operated upon by Petersen of Heidelberg on April 1st, 1902, it is stated that 7, 8, and 9 centimetres respectively of the third, fourth, and fifth ribs were resected. In his second case, operated upon on May 20th, 1902, Dr. Simon is stated to have operated more extensively and removed a portion of the sternum at the same time as ribs which are not specified. This was also done by him in a third case.[3]

I have been privately informed that a fourth case has undergone operation under Professor Brauer's supervision at Marburg, and, as I have stated, Professor Wenckebach of Groningen has published details of a case done on his suggestion by Professor Koch in which "cartilages and parts of the fourth to the seventh ribs" were removed. These were all assumed to be cases in which there had been adhesive pericarditis within and without the sac, and in one of Brauer's cases which died from pneumonia a year after operation pericardial tethering was shown post mortem to exist. Brauer enters at some length into the differential diagnosis of adherent pericardium[3] and revives as a diagnostic sign the value of diastolic impulse, without apparently being aware of the fact that Hope had minutely described the same phenomenon as diagnostic of hypertrophy in his work on "Disease of the Heart" published in 1839 (third edition).

That a correct diagnosis should be arrived at if possible as to the presence of pericardial tethering is, doubtless, important, as it would naturally guide the surgeon as to the method he adopted in operating, and more especially as to whether a portion of the sternum as well as the ribs should be resected. William Mackenzie's suggestion that a portion of the fifth rib-cartilage should first be removed as an exploratory aperture seems valuable. "This removal of the 5th," he remarks, "I regard as the key-stone of the operation. If the intrapleural area is free we have settled in a few minutes the diagnosis of adherent pericardium, and on that ground alone I consider the operation is justifiable. If we are unable to feel the intrapleural area we know there are adhesions."[4] The presence of such costo-pericardial adhesions, with which in the case of enlarged heart it may be assumed that visceropericardial adhesions are associated, may indicate the removal of a portion of the sternum in addition to the ribs, as practised by Simon in two of Brauer's cases. But, if the clinical phenomena can exclude such adhesion, which, it will be admitted, is often a difficult matter, and, especially in aortic cases, in which the character and direction of hypertrophy usually displace the volume of the left ventricle downwards and to the left, it will probably be found that the best guide in most cases to the amount of thoracostomy necessary will be the area of forcible cardiac impulse, and that the removal of ribs and cartilages without interference with the sternum will fulfil every purpose. It may be unwise to give the heart too much room to act in; it is certainly quite possible to give it too little. With this preface I shall now proceed to relate the clinical history of a case under my care at the Great Northern Central Hospital in which Mr. Stabb performed, at my request, the operation of thoracostomy for cardiac pain associated with an enlarged heart.

A clerk, now 19 years of age and single, was admitted on Dec. 12th, 1907. He first came under my notice on Nov. 22nd, 1901, when he was a schoolboy 13 years of age, and I was physician to out-patients. At that time I made the following note: "Aortic regurgitation. Pain in the left side. Ill some months. No serious illness. 'A little rheumatism' four or five years ago in wrist and knees. No chorea. Heart's apex beat fifth space three inches from mid-sternum. Left ventricular dulness third rib. Right auricular dulness one inch beyond right edge (of sternum). Bruit with thrill at apex, presystolic. Bruit not heard in back. At right base soft aortic diastolic. Carotid pulsation exaggerated. Lungs normal." A year later (Nov. 7th, 1902) I have the note, "Aortic diastolic, but at apex outside nipple line triple rhythm," and on July 1st in the same year, "The chief lesion is aortic regurgitation with a thrill at the apex post-systolic in time and running up to systole." In the interval between this time and December, 1907, I have no personal knowledge of his condition. The disablement which resulted in his admission to hospital at the date mentioned began five months previously. Till then he had gone to work although never strong and suffering a good deal from breathlessness and pain in the chest.

On admission the patient exhibited in an exaggerated degree the well-marked phenomena of aortic valvular disease. The heart's apex beat was in the fifth and sixth spaces about four inches from mid-sternum. The area of cardiac dulness was increased. There was visible pulsation in the intercostal spaces to the left of the sternum, with exaggerated systolic impulse in the carotids and suprasternal space. The cardiac action on palpation was heaving and concussive, with pronounced diastolic thrill over the aortic area. On auscultation a loud and coarse systolic and diastolic bruit was audible at the aortic base and at the apex a rumbling presystolic murmur. His pulse-rate was 88 to 92; its rhythm was regular and its character was of the well-known water-hammer type. The blood pressure, determined by the Riva-Rocci instrument, is noted to have been 125 to 130 millimetres of mercury. Respiration was shallow but there was no evidence of lung disease. His other organs were normal and there was no anasarca or effusion into any of the cavities or cellular textures of the body. The urine was free from albumin.

The patient remained in hospital about five weeks, being discharged on Jan. 18th, 1908. He was treated by rest and cardiac tonics, taking in the first instance strychnine and belladonna with nitrite of amyl to relieve his anginoid pain, and, later, as he made little progress, with strychnine, stropthanthus, and digitalis, which increased the force of systole without relieving his pain. His systolic blood pressure is noted on Jan. 3rd, 1908, as having been 160, and his attacks of pain varied in frequency and intensity but were apparently severe at times. The pain was retrosternal and across the chest but did not radiate into the arms.

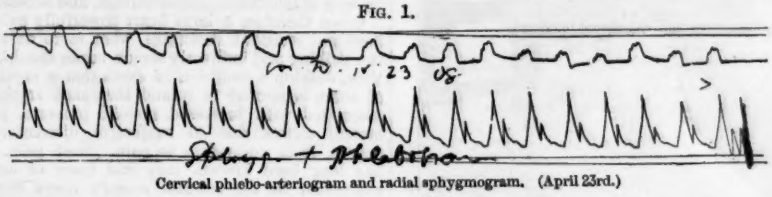
[3] Verhandlungen der Deutschen Gesellschaft für Chirurgie, Band xxxii., p. 133, et seq.

[3] Loc. cit., ii., p. 84.

[4] Loc. cit., p. 495.

There was considerable mobility of the heart's apex beat, which is noted by me as having been 9½ centimetres from mid-sternum in the fifth space when lying on the back, 6½ centimetres from the same point on right decubitus, and 11 centimetres from the tip of the xiphoid process to its beat in the sixth space when lying on the left side. From this I considered it improbable that he had any costo-pericardial adhesion. His condition appeared to be stationary. The attacks of pain, which frequently occurred at night as well as during the day, kept him awake. Although he was able to walk about gently and take his meals regularly he made little progress towards greater activity with comfort but exhibited none of the phenomena of progressive retrograde stasis. Under these circumstances he was discharged from hospital, advised to take cardiac tonics and rest at home, and to report himself from time to time. Before he left I informed his father that I believed thoracostomy might be of service to him but in nowise urged the operation, as I could not speak from experience, direct or indirect, as to its effect in a similar case.

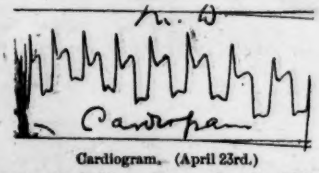
FIG. 1.



Cervical phlebo-arteriogram and radial sphygmogram. (April 23rd.)

Thus the matter rested until April 13th when he was readmitted under my care, having reported himself from time to time without any evidence of recuperation, and suffering more than previously from cardiac pain, over which the inhalations of nitrite of amyl appeared to be losing their power. He was admitted on the understanding that, if he showed no satisfactory improvement, the operation I had suggested should take place. On the 18th I noted that the area of cardiac dulness measured 5½ by 5½ inches, the apex beat was in the sixth space 5 inches from mid-sternum, the area of palpable concussion measured 3 by 4 inches and was covered by the fifth and sixth ribs over an extent of 4 inches including their cartilages, while the other physical signs were as before. The anginoid attacks were often severe but varied in frequency. They occasionally lasted

FIG. 2.



Cardiogram. (April 23rd.)

from a quarter to half an hour. On the 24th, some time after an attack had passed off with the use of nitrite of amyl, his pulse-rate is noted as 138, his respirations as 24, and breathing capacity as determined by Lowndes's spirometer as 60 cubic inches. On the 27th it is noted that the patient's "condition (was) unchanged. Fewer anginoid attacks than usual during the last 24 hours. Heart as before. Blood pressure 170 mm. (systolic), 100 mm. (diastolic). Urine normal." His temperature had throughout been normal and the accompanying tracings (Figs. 1 and 2) show the character of his cardiac and arterial pulsations on April 23rd.

My previous experience of such cases had been that relief from cardiac pain was only obtainable by increasing doses of trinitrine, while short intervals of improved cardiac action were not always to be expected, and even if they occurred they did not long postpone the deteriorating signs which heralded the ultimate failure of the heart. I therefore determined to afford the enlarged heart more room to act in, while its power was still good, and asked Mr. Stabb to secure free space for cardiac systole without the incarcerating barrier of hard rib, in the area of thoracic concussion. This he very skilfully did on May 1st in the following manner. A U-shaped incision with its descending limb in the centre of the sternum commenced at the level of the sternal attachment of the third rib. Sweeping round at the level of the seventh rib the ascending limb of the incision was carried to a point corresponding with its commencement. A large flap was thus secured and raised, consisting of superficial textures and muscle down to the ribs. This was turned back and spread between warm moist towels. The fourth and fifth intercostal spaces were next cleared down to pleura and the fifth rib, covered by its periosteum and perichondrium, carefully separated from the underlying pleura and 4½ inches of its length from the sternum outwards, were removed in three pieces. The sixth rib was similarly cleared and 5½ inches of it were removed in one piece, its greater arching allowing more easy detachment without injury to pleura. The internal mammary artery required ligature. A small puncture was made in the pleura while the last portion of the fifth rib was being removed, air being aspirated through it during respiration. The puncture was stitched but was not rendered quite air-tight thereby. The raised flap was then replaced and accurately applied by alternate fishing-gut and horsehair sutures, a drainage-tube being inserted at the lower external angle of the wound and left in position for 24 hours, when it was renewed. After removal of the ribs and display of the underlying movements of the heart the latter appeared to be smooth, rolling, and without adhesion to the extraneous structures exposed. Mr. C. H. C. Visick administered the anæsthetic (chloroform) with the Vernon-Harcourt apparatus, the patient taking it well. Towards the end of the operation strychnine was injected hypodermically, rather as a precautionary than necessary measure. The wound healed by first intention, except at the point of issue of the drainage-tube, where a little leaking continued for a short time.

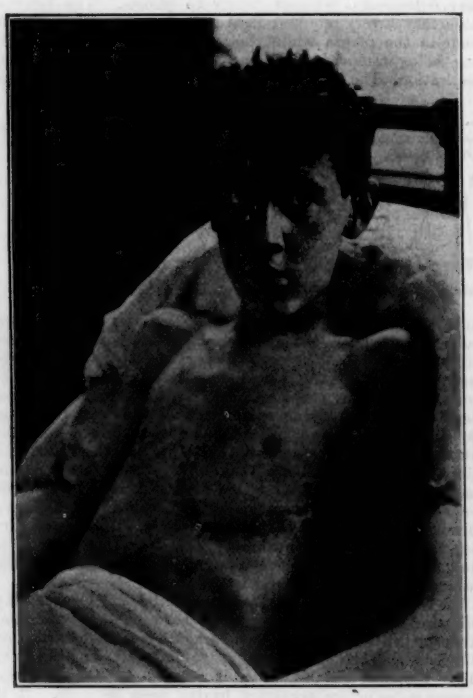
The temperature was slightly raised (99·2°) on the day following the operation and swung between that point and subnormal till May 9th, when it again remained normal or subnormal. The pulse was slightly quickened, running from 108 to 126 until the 9th, when it dropped to 92 to 100, the average pulse before operation having been 80 to 96. It is now 92 to 100. The rate of respiration was most altered, its highest rate being 60 on May 4th and averaging about 40 until the 10th when it dropped to an average 32 till the 17th. It is now 24. The highest pre-operative respiratory rate noted is 36 and the lowest 20. The higher rate recorded was apparently due to shallowness of respiration from pain in the side due to the wound.

The effect of the operation objectively and subjectively has been very satisfactory. The space previously occupied by the fifth and sixth ribs now consists of a soft unresisting cushion formed by the fourth, fifth, and sixth intercostal spaces and the sites of the removed ribs. The palpating hand finds little thoracic concussion, but the powerful throb of cardiac systole into the yielding covering of the heart. The other physical signs remain as before but the exaggeration of carotid and suprasternal pulsation is less marked and the blood pressure registered is from 120 to 130 and at times as low as 115. The apical presystolic rumble is not to be heard. The only palpable thrill is basic (aortic) and diastolic in time. The skin on the præcordia to the left of the sternum below the level of the fourth rib was decidedly diminished in sensibility, doubtless from severance of the fifth and sixth intercostal nerves, but is now recovering sensibility somewhat. The area thus robbed for a time of all sensation (tactile, painful, and temperature) measures about 2 by 4 inches. Finally, before operation the chest capacity as registered by Lowndes's spirometer was 60 cubic inches and on May 18th it was 63. The capacity of two other men, presumably normal, was 120 and

130 cubic inches respectively. Subjectively, the most gratifying result has been that the patient has had a greatly diminished experience of anginoid pain, and even when suffering it affirms that it is decidedly less severe than prior to the operation.

On May 12th Dr. James Mackenzie saw the case with me and asked the patient whether in his opinion the degree of relief he had experienced justified his having undergone the suffering of the operation. This question he emphatically and without hesitation answered in the affirmative. The nurse in charge of the ward during the night has also informed me that the quietude and uninterruptedness of the

FIG. 3.



The operation wound healed.

patient's sleep since the operation are in striking contrast to his broken rest before that event.

The patient was dismissed from hospital in all respects more comfortable than before operation and perfectly satisfied with his progress on June 6th.[5] Before leaving he was provided with a poroplastic shield to protect the more exposed heart from accidental injury, in imitation of the costal bulging adopted by nature in the young for the same purpose. It transpired in the discussion on Brauer's cases[6] that the enlarged interspaces tended to shrink apparently without undoing the benefit of the operation. Whether this will also prove to be the case in untethered cor bovinum remains to be seen. If this occurs I can scarcely think the change will be beneficial. In the meantime, the perpendicular measurement of the gap in the present instance is seven centimetres.

The accompanying tracings exhibit the character of the cardio-vascular movements at different points and at different dates. (Figs. 5 to 10.)

Remarks.—The normal beat of what is usually assumed to be the "apex" of the heart—that is, the portion of the ventricular heart which comes in momentary contact with the thoracic parietes—occurs at an intercostal space. In the adult this is usually the fifth interspace; in the child frequently the fourth. But whatever the actual position of the beat its brunt is expended on a soft interspace. The finger placed on the rib above and below the pulsating space feels no shock. Under abnormal circumstances the beat may of course be obscured or imperceptible, either when the force of systole is diminished or when there is an abnormal interposition of lung, fat, new growth, or effusion between the heart and the palpating hand. When, however, the heart is increased in size and the force of systole is also in excess of what is normal to the individual, the cardiac apex thrusts, not against a yielding interspace, but against interspace and rib, one or more, according to the size of the systolic ventricle. The finger or hand placed over the heart then feels the concussion of the stroke both against rib or ribs and interspace or interspaces. Again, notwithstanding recent controversies as to the rôle of muscle and nerve in cardiac action, it is admitted that direct muscular stimulation of the eviscerated heart induces contraction, and that in the heart *in situ* nervous impulses have a powerful effect on the organ by way of inhibition, augmentation, and acceleration.

Given therefore a large heart powerfully pulsating against hard and resistant structures, what more natural than that the striking and indirectly struck organ should, from time to time, develop a condition of excitation or erythism in excess of what is normal to it, and that such erythism should be associated with increased systolic pressure, augmented by mental causes due to subjective discomfort in various degree, from uneasiness to pain. Such pain, moreover, as has long been known, may find more or less widespread expression in the somatic sensory nerve territory issuing

FIG. 4.

The crosses show the enlarged area of the apex beat and the markings show its situation.

from the segments of the cord related to the organic nerves stimulated on the principles discussed by James Mackenzie[7] and Head.[8] These inconvenient consequences do not follow even the powerful systolic palpitation of a normal heart in a normal situation. It is reasonable to suppose, therefore, that providing the enlarged and powerfully pulsating heart

[5] Seen by me on June 25th he stated that he was able to "get about" quite well and that he had not experienced his present condition of thoracic comfort since childhood. He has also increased 5 pounds in weight since leaving hospital.

[6] Loc. cit.

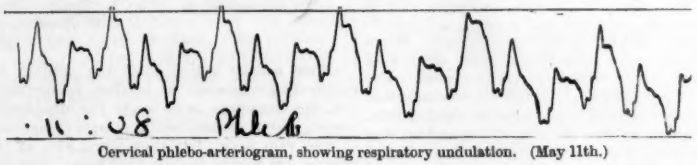
[7] THE LANCET, Jan. 5th, 1895, p. 16.

[8] Brain, vol. lvi.

with a proportionately large interspace void of osseous resistance might prove a means of sparing its energy. This was done and a local parietal anæsthesia incidentally produced in the case I have narrated with the ameliorative consequences related.

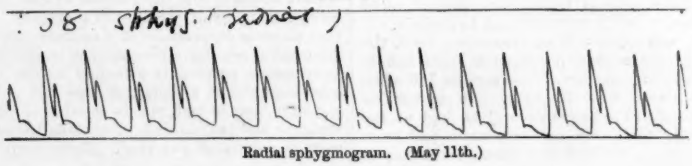
Although I have no desire to argue too widely from a single instance either as to the cause of some anginoid pains in some such cases or as to the value of thoracostomy as an alleviative and conservative measure, the results of the operation subjectively and objectively have been sufficiently gratifying to justify its repetition under similar circumstances. In describing this patient's painful symptoms I have used the term "anginoid," which is difficult to defend. He complains of retro-sternal pain. His pulse and heart quicken and his systolic blood pressure during the attack rises. On the subsidence of pain the pulse-rate falls and with this the systolic pressure falls likewise. The pain is relieved by nitrite of amyl. Under these circumstances the use of the term "angina" would be quite justifiable and it would doubtless be the correct term to use. Why, then, have I not used it? The pain certainly does not radiate far in this case, as it very frequently does in aortic cases, but this fact does not, as we know, invalidate the use of the term angina. I have noted before an abasement of

FIG. 5.



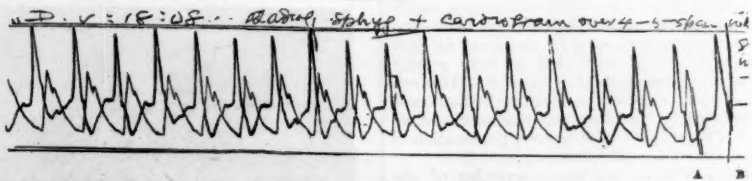
Cervical phlebo-arteriogram, showing respiratory undulation. (May 11th.)

FIG. 6.



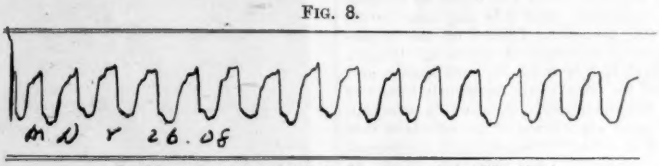
Radial sphygmogram. (May 11th.)

FIG. 7.



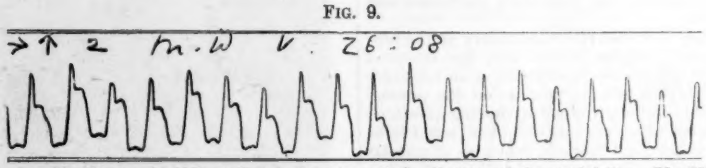
Cardiogram from sternal end of enlarged apex beat interlaced with the radial sphygmogram (on account of the narrowness of the stage). The arrests at A and B show the corresponding phases of movement. (May 18th.)

FIG. 8.



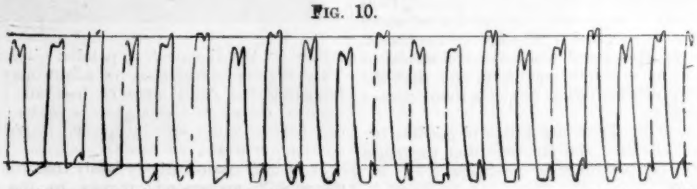
Cardiogram from sternal end of enlarged apex beat. (May 26th.)

FIG. 9.



Character of cardiogram at middle portion of enlarged apex beat. Shows respiratory undulation. (May 26th.)

FIG. 10.



Cardiogram of outermost portion of apex beat. Shows large excursions and also respiratory undulations. (May 26th.)

ventricular systolic force during the attacks of angina, or at least interpreted the signs observed as those of abasement from the modification of the cardiac sounds.[9] That modification of sounds I have not observed in this case. The note of the bruit remains the same and becomes not less rough till the pain subsides. The attacks were, prior to operation, very frequent, so frequent that one was tempted to regard some of them as exaggerated by the neurotic disposition of the patient. But this is not justifiable, and on one occasion I roused his indignation by the inquiry as to whether he did not make the most of his sufferings. When we know that he faced so serious an operation after long consideration to gain relief this may be dismissed. The attacks, in truth, were not only like angina but were angina, and my use of the tentative term at any time is indefensible. My reason for continuing to use it after the operation was that the relief produced was much greater than I had anticipated, although not greater than I had hoped, and I hesitated to emphasise the alleviative value of the procedure by employing the more serious term. The fact of relief remains. The cause of relief is more difficult to explain.

When the patient was admitted in December, 1907, the notes of his blood pressure show a variation from 125 to 130 millimetres of mercury during quiescence to 160 when the attacks of angina were more frequent. At my visit on April 27th it registered 170 millimetres and he had at the moment no pain. By this time the operation had been decided upon, and it may have been that emotional causes on this occasion augmented the systolic pressure. The fact remains that since the operation his average systolic brachial blood pressure has been from 120 to 130 millimetres, which appears to be normal for the patient in an anerythetic condition. The operation, therefore, does not seem to have reduced his normal blood pressure, but to have greatly modified the tendency to an erythetic rise of it. This can only be from the removal of some physical as distinguished from emotional incentive to erythism, and that incentive we are surely justified in regarding as the osseous provocation to cardiac stimulation removed by thoracostomy.

We may, therefore, without any undue exercise of the imagination conclude that one cause, at least contributory, to attacks of angina in aortic valvular disease with hypertrophied heart is direct stimulation of the organ by systolic impact against costal resistance, and this may also be regarded as a cause of the premature failure of the hypertrophied heart so frequently observed in practice. It may, of course, be argued that, if this were so, both angina and premature failure would be even more constantly observed than they are in these circumstances. Before this objection can be reasonably met larger experience of the effects of this operation is needed, and as a contribution towards the formation of opinion on the subject I offer this case, which, so far as it goes, certainly supports the conclusion I have indicated, as in any case rational, to avoid a premature and unscientific positivism.

It may also be asked how such a central theory of the production of this type of angina agrees with the accepted notions of peripheral vaso-motor constriction as an incentive to the attacks. While it is not my purpose on the present occasion to discuss this and many other interesting questions on the nature of angina which are raised by the facts I have related, it may be pointed out that the reduction of systolic pressure by the nitrites is also associated with acceleration of the heart and reduction of the cardiac output for each systole, although without diminution of it as a whole. Consequently it is legitimate to urge that a succession of small systoles has not the same concussion influence on the thorax which is induced by the slower and more powerful stroke of the enlarged heart in an erythetic condition, and that the alleviative effect of the nitrites rather supports than opposes my suggested explanation.

In conclusion, I have to thank my house physician, Dr. Woodroffe, for notes of the case, and Mr. Hamilton, the house surgeon, for his care of the patient after operation.

Upper Berkeley-street, W.

[9] Edinburgh Hospital Reports, vol. iii., p. 254.

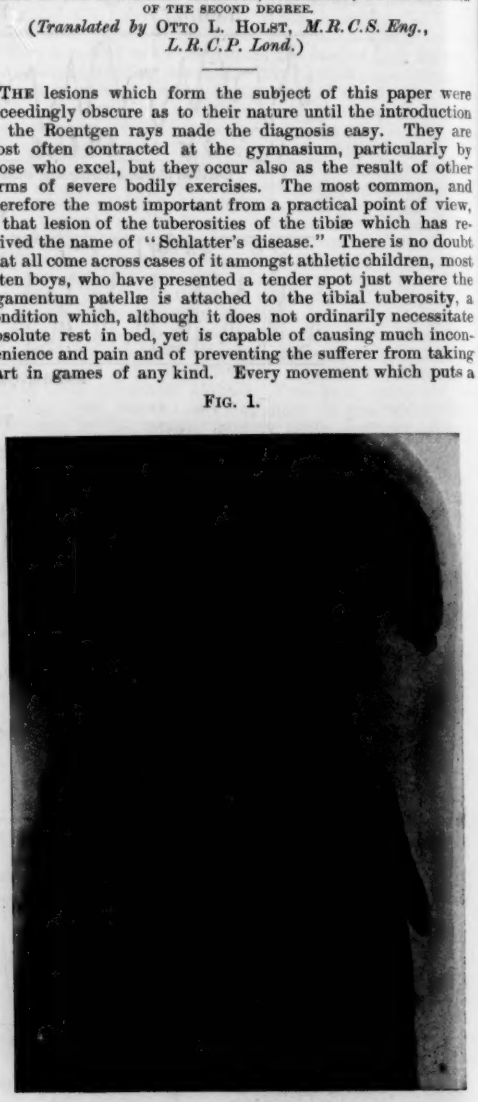
MEDICAL MEN CALLED TO THE BAR.—The following medical men have their names on the current call list for Trinity Term: by the Inner Temple, William Henry Whitehouse, M.D. Durh., of Birmingham; and by Lincoln's Inn, Percy John Probyn, M.B., B.S. Lond., Major, R.A.M.C.

CONCERNING SOME RARE BUT IMPORTANT SURGICAL INJURIES BROUGHT ON BY VIOLENT EXERCISE.

BY PATRIK HAGLUND, M.D.,
DOCENT AT THE KAROLINSKA INSTITUTE, STOCKHOLM; NAVAL SURGEON OF THE SECOND DEGREE.
(*Translated by* OTTO L. HOLST, *M.R.C.S. Eng., L.R.C.P. Lond.*)

THE lesions which form the subject of this paper were exceedingly obscure as to their nature until the introduction of the Roentgen rays made the diagnosis easy. They are most often contracted at the gymnasium, particularly by those who excel, but they occur also as the result of other forms of severe bodily exercises. The most common, and therefore the most important from a practical point of view, is that lesion of the tuberosities of the tibiæ which has received the name of "Schlatter's disease." There is no doubt that all come across cases of it amongst athletic children, most often boys, who have presented a tender spot just where the ligamentum patellæ is attached to the tibial tuberosity, a condition which, although it does not ordinarily necessitate absolute rest in bed, yet is capable of causing much inconvenience and pain and of preventing the sufferer from taking part in games of any kind. Every movement which puts a strain on the ligamentum patellæ gives rise to acute pain. This very unpleasant state of affairs may last a long while, rendering the child more or less an invalid for several months. Strangely enough, it is seldom that the condition can be associated with a specific instance of a particular accident or strain.

FIG. 1.



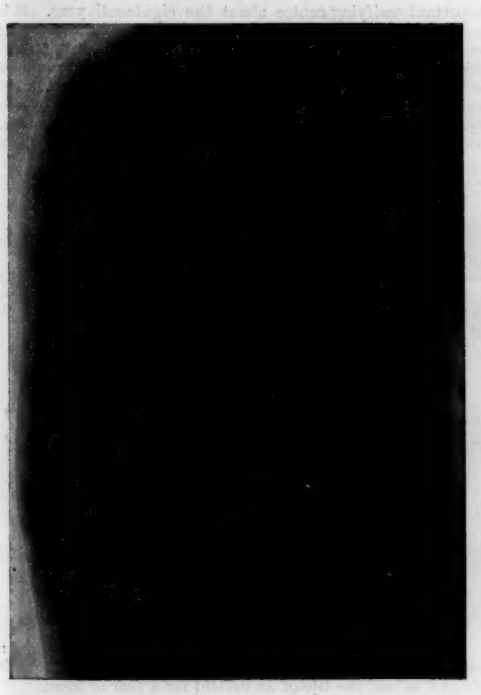
It is only comparatively lately that the disease has been thoroughly understood, thanks to the observations and studies made of it by Schlatter in Germany and Osgood in America. Before that time great uncertainty existed in the minds of surgeons as to its nature, many having suspected tuberculous mischief in the tibia owing to the presence of symptoms pointing to inflammation. Although sometimes operations have been performed, not even then has it been possible to arrive at a correct diagnosis. It is the Roentgen rays that have disclosed to us its true pathology. We knew

that the lesion must be caused by something which affected the attachment of the ligamentum patellæ to the tuberosity of the tibia, but as no similar condition was found elsewhere in the human body where tendons, attached to bones, were subjected to strains, one was forced to the conclusion that special circumstances must obtain in this particular position to account for it.

It is well known that the long bones develop from three ossification centres—i.e., one in the shaft and one in each epiphysis. If we examine the upper end of the tibia, we find a very peculiar shape of the ossification centre. Fig. 1 shows a Roentgen picture in profile of the upper end of the tibia in a boy aged 13 years. As cartilage does not prevent the passage of the rays the light interspace between the tibia proper and the tuberosity shows where ossification has not yet taken place. We see how the ossification centre sends down a long projection in front of the upper end of the tibia, which projection, owing to its characteristic appearance, has received the name of "the trunk-like projection of the superior tibial epiphysis." In reality it is not at all trunk-shaped, but broad laterally and flattened antero-posteriorly. This process reaches down to where the ligamentum patellæ is attached and the "point of attachment" is completed by the merging together or union of the bone and the projection which usually takes place at the eighteenth or nineteenth year. Before the twelfth year no trunk-like projection is to be found, but it is about this time that it begins to ossify. As any exertion of the extensors of the knee undoubtedly puts a certain amount of strain on the apex of this projection it is easy to understand how injuries might happen to it. And the lesion with which we are now concerned is just caused by any extra strain brought to bear on this delicate anatomical mechanism.

The traumatic lesion may vary a good deal in its pathological aspect, but it is well to include every form under the generic term of "Schlatter's disease." One may find a

FIG. 2.



bending outward of the trunk-like projection, a partial separation of it from the diaphysis—i.e., fracture in the epiphyseal line, or in still more severe cases a complete separation with the fragments more or less dislocated. In most of the cases a fracture of the projection is found. Figs. 2, 3, 4, and 5 show excellent instances of this condition. Clinically all these varieties resemble one another. They occur always between the twelfth and the nineteenth year; they happen to strong energetic children fond of games; they are more common in boys than in girls and are more often met with in the right leg, as this is the leg which has to bear the brunt in any exertion.

It is a curious fact, as has been already remarked, that the patient cannot, as a rule, say when the accident happened.

FIG. 3.

The trouble does not generally come on suddenly, the patient complains that his knee has begun to pain him and that he has discovered a bump there. If one inquires carefully into the history of such a case one almost always elicits the fact that the first time pain was felt was after some severe exertion—e.g., a long or a high jump, &c. Ever since the pain has always been present on any severe exertion. The trouble has gradually become more and more pronounced, especially if the patient has continued to take part in games and sports. At last even ordinary walking brings on pain; the patient himself and his relations grow anxious and he is taken to see a medical man. All these symptoms, which seem to be against the theory of a traumatic injury, are now satisfactorily explained by the Roentgen pictures. That the injury is productive of so little discomfort at the time depends no doubt upon the fact that the fracture of the trunk-like projection takes place without involving the perichondrium which covers it. And as cartilage just as little as bone is provided with nerves of sensation, it is easy to understand how such a lesion can occur without any pain at all. Meanwhile a serious weakness has been caused at the point of insertion of the ligamentum patellæ and each contraction of the extensors of the knee aggravates the condition. In this way an irritation is constantly operating which leads to an increase of the inflammatory symptoms. The patient becomes more and more an invalid. The lesion is, though not serious, very troublesome. It usually lasts six months, but two years may elapse before the patient gets a useful limb again. Much depends on the amount of anatomical disturbance and on how far the patient is careful not to irritate the injured cartilage.

As for the treatment, the first thing to be done is to have a Roentgen picture taken. If the injury is shown to be a severe one the patient should be put to bed with or without a splint. In milder cases it is sufficient to warn the patient against any violent exercise likely to irritate the parts; in these latter cases it is not necessary to forbid walking on level

ground because, as is well known, the extensors of the knee are hardly put to any exertion at all in this exercise. Stair-work on the contrary should be avoided. No massage and no medical exercises should be employed. The surgeon has often a difficult task in getting his prognosis in these cases accepted, for parents find it hard to believe that the

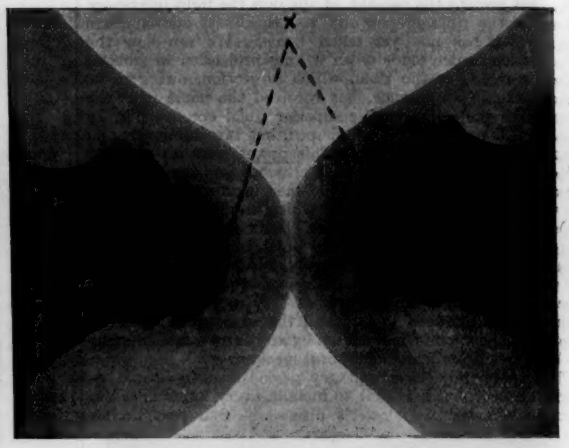
FIG. 4.

FIG. 5.

condition which often simulates serious mischief will end in a complete cure. I remember the instance of a naval cadet who had injured one of his knees in this manner. The question arose whether he was to be allowed to remain in the navy or not, and it was with the greatest difficulty the naval authorities were at last persuaded that the leg, though slow to improve, would ultimately get perfectly strong and well.

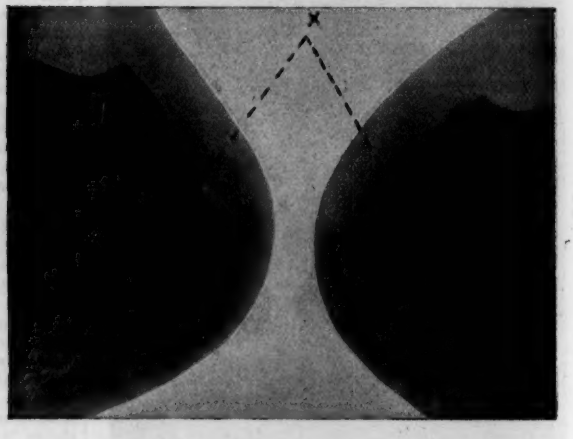
Having described this particular injury fairly exhaustively I need not dwell long on one or two more varieties of exactly the same nature, though less frequently met with. One of these—and this the worst of all—happens to the epiphysial centre of ossification of the calcaneum, just at the attachment of the Achilles tendon. This special centre begins to show itself about the tenth year and joins the more

FIG. 6.



important ossifying centre about the eighteenth year. It is here where one may meet with a separation or fracture owing to some great strain involving the calf muscles. Instances of this injury are shown in Figs. 6 and 7. Signs and symptoms are exactly similar to those mentioned in connexion with the lesion already described. I need only add that it is still more troublesome and slow to cure than Schlatter's disease, because it is very much more difficult to avoid strains to this

FIG. 7.



position, for even a quiet walk affects it. The patient is obliged to lead the life of an invalid for a year or more.

The third injury belonging to this category takes place at the tip or tubercle of the os naviculare of the foot. This bone is not completely ossified until about the sixteenth or eighteenth year. It sometimes happens that the ossifying centre becomes fractured without any injury to the perichondrium and therefore without giving rise to any

pain. The injury is caused by severe strain to the instep involving violent stretching of ligaments which spring from this point. Games, e.g., lawn-tennis and football, are responsible for the lesion, as is also strenuous dancing. This explains why girls exhibit this particular injury more often than the two preceding ones. The condition may be compared with certain troubles caused by the presence of what has received the name of "os tibiale externum," a small adventitious bone occasionally met with at the tip of the os naviculare pedis. It may be questioned whether these ossa tibialia externa do not derive their origin from fractures of the scaphoid tubercle in early life. Figs. 8 and 9 demonstrate

FIG. 8.

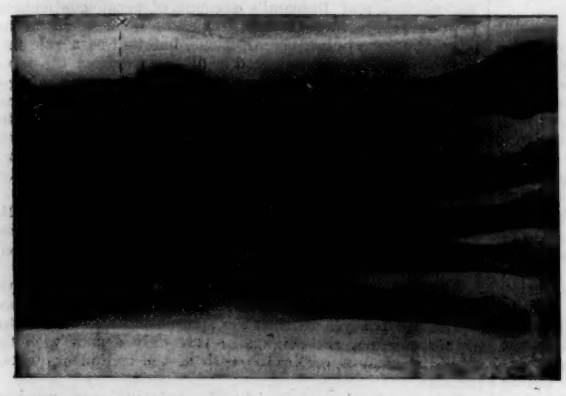
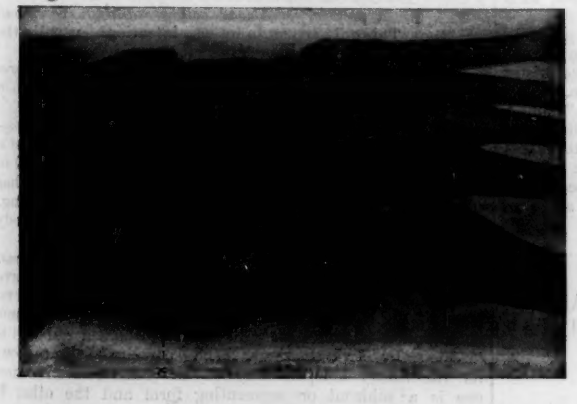


FIG. 9.



clearly the nature of this group of injuries. One ought never to make light of these injuries. For it is only by insuring rest and avoidance of all and every strain to the injured part that one can save the patient from being more or less an invalid for months, even years.

Stockholm, Sweden.

A DEMONSTRATION IN INSTANTANEOUS RADIOGRAPHY.—On June 24th at the Royal Infirmary, Liverpool, by the invitation of Mr. C. Thurstan Holland, Messrs. Schall of London gave a very successful demonstration of the instantaneous radiography of the chest. Most of the medical and surgical staff, together with the chairman and several of the committee, were present. A film was exposed on a patient in the infirmary suffering from aneurysm and a most beautiful result was obtained with an exposure of a fraction of a second. All the apparatus was specially sent to Liverpool by Messrs. Schall and was explained to the audience by Mr. Holland whilst the film was developed.

"ENDEMIC FUNICULITIS."

BY ALDO CASTELLANI, M.D. FLORENCE,
DIRECTOR OF THE CLINIC FOR TROPICAL DISEASES, COLOMBO, CEYLON.

SINCE many years medical men practising in Ceylon have noticed the occurrence of a peculiar form of acute suppurative inflammation of the spermatic cord, which occasionally takes a true epidemic character, numerous cases occurring within a short period of time. References to this affection may be found in almost all the medical reports for the colony during the last 20 years; the disease being variously indicated by the name of phlebitis of the cord or corditis. At the request of Dr. S. C. Paul, surgeon to the General Hospital, I have undertaken the investigation of the malady. I wish to express my great indebtedness to him for having placed at my disposal several cases and for having given me most valuable information; my thanks are also due to Dr. Roux, the house surgeon, and to Dr. L. C. Wijisinghe, my house physician. I propose in this paper to give briefly the results of my preliminary investigation.

Clinical symptoms.—The disease begins suddenly. The usual history is this. The patient after an extra hard day's work comes home in the evening very tired, but not feeling unwell, and takes a cold bath as usual; after the bath he is suddenly seized with a shivering fit, the temperature rising very high. The patient feels very sick and there is often actual vomiting; at the same time he complains of pain along the cord and the epididymis. The condition becomes rapidly worse and the patient is generally taken to hospital on the second or third day of the illness. On admission it is usually found that the general condition of the patient is grave; there may be continuous vomiting and occasionally hiccough; the temperature is generally above 102° F. and the pulse small and frequent. At the physical examination it will be seen that the inguinal region is occupied by a large cylindrical swelling in the direction of the cord. The swelling is very tender on pressure and hard; the skin is not affected. Generally the epididymis is somewhat enlarged and tender, though in some very recent cases it may not seem to be affected; in all cases the testicle proper appears to be normal; there is not effusion in the tunica vaginalis. The affection is generally localised to one side only but occasionally attacks both sides. The condition on superficial examination might easily be mistaken for strangulated hernia. At the examination of the penis and scrotum no ulcers will be found, no signs of gonorrhœa, and no signs of any traumatic lesions. As a rule the disease has no tendency to spontaneous recovery; if an operation is not performed in time signs of general septicæmia usually set in; in such cases the skin of the patient often becomes jaundiced, cutaneous hæmorrhages may appear, the fever is of an intermittent or remittent type, the pulse becomes extremely small, there is often hiccough, and the patient dies in a few days. The only effective treatment is a surgical one: orchiotomy—sectioning the inflamed cord as high up as possible.

Pathology.—The whole of the spermatic cord is highly inflamed and infiltrated. The circumference of the cord may be as much as 3 inches and 3½ inches. The tunica vaginalis is hyperæmic, but there is no collection of fluid. On making a transverse section of the cord yellow creamy pus will exude from the opened veins of the pampiniform plexus as well as from the vas deferens. The inflammation is not localised to the cord only: it ordinarily extends to the epididymis; in two very recent cases, however, the epididymis was normal. The testicle proper remains always unaffected; there is no effusion in the tunica vaginalis. The histological lesions are briefly the following: the veins of the pampiniform plexus present a cellular infiltration of all

the coats, the lumen of some veins being occupied by pus cells; the vas deferens also presents a well-marked cellular infiltration of its mucous membrane and various muscular coats.

Etiology.—Among the old Ceylon practitioners the disease was considered by some to be of filarial origin; others considered it to be a malarial affection. I have examined bacteriologically five cases: in all a diplo-streptococcus was present in the pus. In two cases in which I have examined bacteriologically the blood taken from a vein, the same strain of streptococcus was found in the blood. I give here a brief description of the organism.

Microscopical characters.—The coccus is arranged in pairs, or short or long chains; when arranged in pairs its shape is somewhat gonococcus-like. It is gram-positive.

Cultural characters.—Broth: In some cases general turbidity, in others a flocculent sediment is present, while the upper part of the bouillon remains clear. The same strain may at times produce general turbidity, at other times may give rise to a flocculent sediment. Peptone-water: Same growth as in broth, only less abundant. Agar: The growth may be very delicate, fairly abundant, or even luxuriant; when very abundant the colonies coalesce into a whitish creamy mass. Gelatin: Same characters as in agar, only more delicate. Milk: The milk is rendered acid and clotted. Sugar media: Glucose broth, acid; lactose broth, acid; maltose broth, no acid; saccharose, no acidity; saccharine, no acidity; mannite, no acidity; salicin, no acidity; dextrine, no acidity; Mackonkey agar, no growth. Serum media: nothing characteristic. Agglutination: using the cultures which show a diffuse turbidity it was easy to show in my cases that this streptococcus was agglutinated up to a dilution of 1 in 50, and occasionally 1 in 100, by the blood not only of the patient from whom the strain was isolated but also from the blood of other patients affected by the disease, provided the blood was not collected before the third or fourth day of the illness. This strain of streptococcus is not agglutinated by the serum of patients suffering from other streptococcal diseases, such as erysipelas.

Conclusions.—1. There is endemic in Ceylon, and probably in other parts of the tropics, a peculiar affection of the cord which it seems to me has sufficiently characteristic symptoms to be ranked as a separate disease. This affection might be named "endemic funiculitis." 2. A diplo-streptococcus is constantly found in the pus. Further investigation is needed to decide whether this diplo-streptococcus is the primary cause of the disease or, as I am inclined to believe, is merely a secondary agent playing a rôle only in the suppurative stage of the malady.

Colombo, Ceylon.

PHENOMENAL ABUNDANCE OF PARASITES IN A FATAL CASE OF PERNICIOUS MALARIA.

BY J. CROPPER, M.A., M.D. CANTAB.

(With Coloured Plate.)

NOTES of the case from which the figures in the coloured plate are taken were read before the Society of Tropical Medicine and Hygiene, in London on Feb. 21st last. The facts are briefly as follows:—

A Samaritan, aged about 55 years, was admitted to the C.M.S. Hospital at Nablus, Palestine, on Sept. 15th, 1907, for malarial fever contracted in the Jordan Valley, whence he had just come. On admission parasites were not more numerous than I had seen them previously in other cases—viz., two or three in a field and of the subtertian type; crescents were very few. The fever followed a tertian course and when high (103° F.), on the evening of admission sporulating forms were easily found. At 9 A.M. on the next day the temperature was down and most of the parasites were of the unpigmented ring form. Early on the second day after admission the patient was seized with algide symptoms, the temperature in the mouth being below 95°, which was raised to 97° with difficulty by hot bottles, &c. In spite of treatment, however, he never rallied but succumbed at midnight, having previously had diarrhœa; there were no cerebral symptoms and he was able to answer his name to within two hours of his death. No post-mortem examination was allowed. Most of the slides were taken from the ear two hours before he died and were principally stained by Giemsa's method.

The chief points worthy of note in the coloured plate are the following:—

FIG. 1.—*Clumping of red cells* containing pre-segmenting and more rarely sporulating parasites in masses of from three to 21, which so far as I know has not been previously observed in the peripheral blood, though it is commonly seen in the brain and other organs affected in pernicious attacks, after death. I can find no reference to this occurrence in Marchiafava and Bignami's account of pernicious malaria. I would conjecture that such masses must occur in the internal organs in intense infections, but that as a rule they are not seen, being eliminated or filtered out from the blood in the spleen or the liver, thus giving rise not only to enlarged spleen but also to bilious remittent attacks and malarial hepatitis. Where, however, other organs such as the brain, the kidney, the pancreas, or the intestinal walls are affected, cerebral symptoms, acute hæmorrhagic and pancreatitis, &c., develop, not to mention a gastric form which is often overlooked.

As quoted by Dr. G. C. Low at the meeting referred to above, it occasionally, but extremely rarely, happens that the quartan parasite undergoes enormous increase in numbers and thus may prove fatal.

In Fig. 1 can also be seen a large mononuclear leucocyte containing in its protoplasm a red cell infected by a parasite which has not yet reached the sporulating stage: as noted by Marchiafava and Bignami,[1] this only occurs with the subtertian and never in the case of the tertian or quartan parasite.

FIG. 2.—*Unpigmented rings in extraordinary numbers*, infecting from 40 to 50 per cent. of the red cells; of 500 counted at random 248 were infected and in some cases a simple red cell contained even six or seven rings.

FIG. 3.—*A polymorphonuclear cell containing spores and melanin.* This only occurs in intense infections; usually the large mononuclears are alone affected thus.

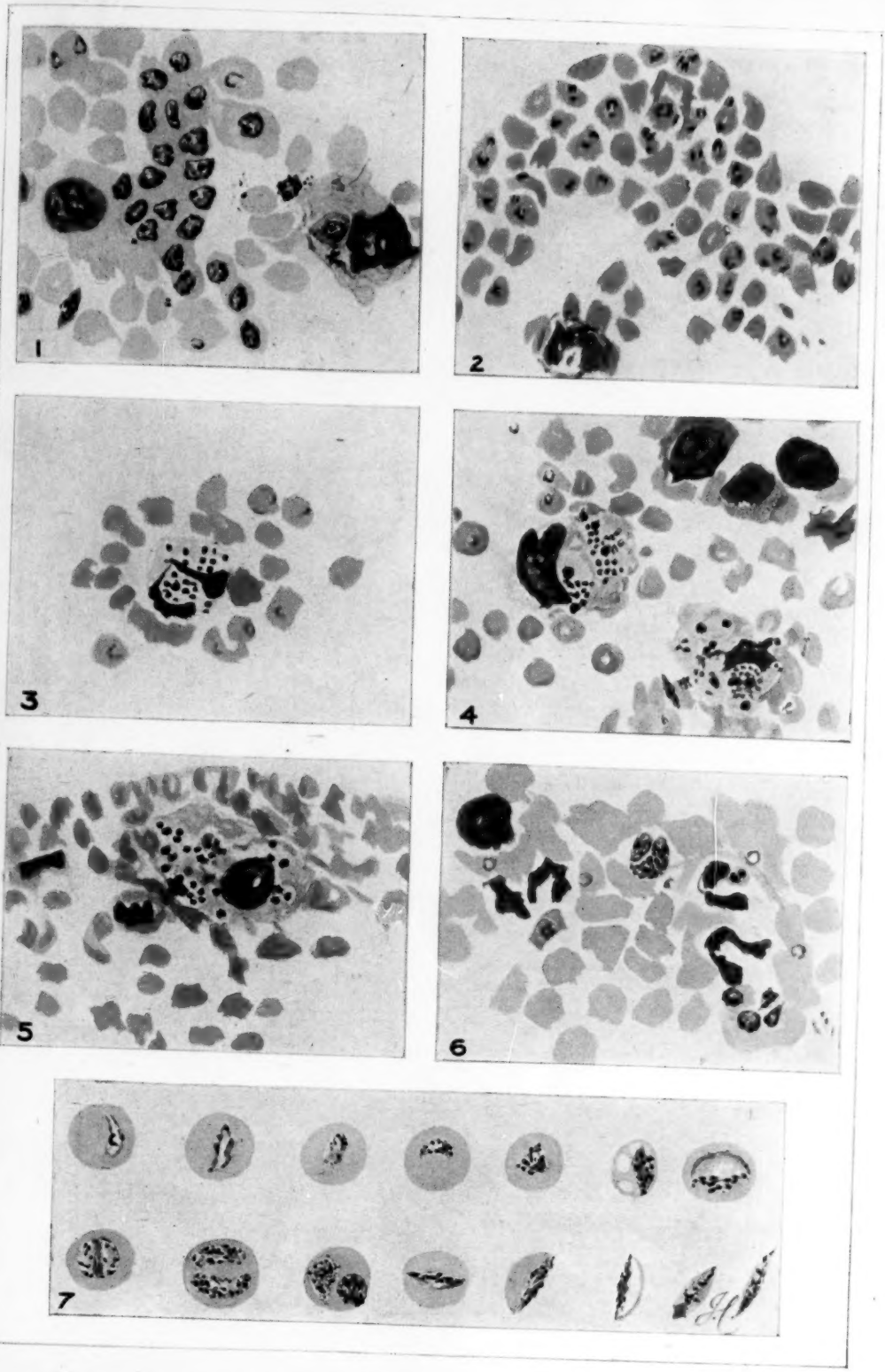
FIG. 4.—*A large mononuclear leucocyte containing three sporulating parasites.* This is very rarely seen even in pernicious attacks.

FIG. 5.—*A pigmented leucocyte containing 25 blocks of pigment or melanin.* Since each of these was the centre of a sporulating parasite, at a reasonable estimate at least 200 to 250 spores had been ingested by this one cell which has enormously hypertrophied as a result of such overfeeding. The greatest number of spores in any one sporulating body was 18 in this case, or on an average 8 to 12.

FIG. 6.—*A red cell containing three sporulating forms.* This has only once been seen in this series, though I have several times seen two. I may add that one could find no trace of the endocorpuscular conjugation described by some authors, and it would seem likely that where a red cell is infected by several rings, each parasite follows out its life-history independently of the others, even when one is a schizont or segmenting form and the other a gametocyte.

FIG. 7.—I have also drawn a series of immature crescents, differentiating the male and female forms as far as possible. The number of these increased enormously on the last day, and it would appear that on the onset of algide symptoms with the temperature under 95° in the mouth and the extremities icy cold to the touch, some sort of migration of the gametes took place from the bone marrow. In any case the occurrence of these immature forms is very rarely seen except in the bone marrow or in the blood of internal organs. The young *male* crescents are in some cases almost or quite circular and often surrounded by a zone of hæmoglobin; the chromatin may occupy any position in the cell and may even exist as a band across the "equator," as in No. 1 in the second row. The pigment is in all cases discrete and never gathered into a block, as occurs early in the segmenting forms. This is also true of the female forms which are more pointed: practically none of them have taken on the crescentic shape which is such a characteristic feature later. Figures of twin crescents and a crescent and sporulating

[1] New Sydenham Society, p. 181.



TO ILLUSTRATE DR. J. CROPPER'S ARTICLE ON A FATAL CASE OF PERNICIOUS MALARIA.

form in the same cell, the so-called gameto-schizont (of Schaudinn) are also given.[2]

The general condition of the blood deserves attention. There was evidently a considerable leucocytosis, though I regret that no count of white cells was made in the fresh blood. Nucleated red cells were fairly common. The differential leucocyte count is as follows: neutrophiles, 40 per cent.; large mononuclear, 21 per cent.; large lymphocytes, 26 per cent.; small lymphocytes, 12 per cent.; eosinophiles, 0·5 per cent.; and mast cells, 0·2 per cent.

Though cases of blackwater fever have from time to time been recorded from Jerusalem and elsewhere in Palestine, this is the first and only true case of pernicious malaria that I have met with amongst nearly 500 cases diagnosed microscopically, quite 30 per cent. of which were subtertian infections, in two and a half years, which strengthens my belief that a comparatively high average daily temperature is necessary for the development of pernicious attacks. Tropical heat is rarely experienced for long in any part of Palestine with the exception of the Jordan Valley, which is sparsely populated and chiefly by bedouin, who must be at any rate partially immune.

Chepstow.

A CONSIDERATION OF THE STATE OF THE AUTONOMIC NERVOUS SYSTEM IN ACUTE SURGICAL CONDITIONS.*

BY ALBERT J. WALTON, F.R.C.S. ENG., L.R.C.P. LOND., M.B., B.S., B.SC. LOND.,
SURGICAL REGISTRAR, LONDON HOSPITAL.

I HAVE selected the present subject for debate to-night firstly, because it seems to me that, by giving attention to these conditions, one may best hope to decrease the present high mortality existing in cases of acute surgical lesions necessitating immediate operation; and secondly, because it is one which has excited much attention abroad but to which but little heed has been given in this country, and, in the majority of cases, the old methods of dealing with these conditions, which in light of recent knowledge would appear to be not only useless but positively harmful, are still adhered to. Two main conditions will have to be considered: (1) alterations in the vaso-motor centres with subsequent vascular changes; and (2) changes in the local nervous system of the intestines after abdominal operations.

1. ALTERATIONS IN THE VASO-MOTOR CENTRES.

In this category must be grouped the conditions of shock and collapse. It has always been taught that these two conditions are essentially different, but it must be remembered that although their causes may be separate, not only are they in the majority of cases associated, but the active factor—viz., a lowered blood pressure—is present in both, and may call for similar lines of treatment. This being the case, it will perhaps be best to commence with a definition of the two conditions. Those given by Lockhart Mummery[1] are as follows: "Shock is a condition resulting from a fall in general blood pressure, due to exhaustion of the vaso-motor centres." "Collapse is a condition resulting from a fall in general blood pressure, due to inhibition of the vaso-motor centres or a loss of the circulating fluids." Thus it may be said that in both cases the condition is due to a lowered blood pressure, caused in one case by a vaso-motor paralysis, and in the other by a loss of fluid. Shock is the condition with which we are now mainly concerned, but in most surgical conditions there is associated loss of blood and fluid exudates, and hence the second factor is but rarely absent.

The blood pressure in man and in animals is maintained in health by two factors: firstly, the work done by the heart; and, secondly, the size of the peripheral vessels. The first factor may be shown experimentally by stimulating the peripheral end of the vago-sympathetic nerve in the dog; the heart-beats become slower and may soon stop, the blood pressure at the same time falling. In those animals in whom the vagus and sympathetic trunks are separate stimulation of the peripheral end of the sympathetic immediately below the inferior cervical ganglion causes augmentation of the heart with a rise of pressure, whilst stimulation of the peripheral end of the vagus causes slowing of the heart with a fall of pressure. Tracings showing this may be found in any text-book on physiology.

The effects of the second factor are shown by the following experiments: That alterations may be caused by a change in the calibre of the vessels is shown by the fact that if a tame rabbit be suspended there is a rapid fall of blood pressure, so that the animal may die. If a wild rabbit or dog be used instead this fall does not take place, but if chloral hydrate be given previously, so as to destroy the controlling influence of the vaso-motor centres, these animals react in a similar manner to the tame rabbit (Leonard Hill). These changes are due to the dilatation of the splanchnic vessels, which is shown by the fact that they are readily prevented by previously applying a tight abdominal binder. The calibre of these vessels is in health controlled by vaso-motor nerves. This may be shown by stimulating the sympathetic nerve in the rabbit; this is followed by a marked constriction of the vessels of the ear on the same side. If the nerve be paralysed the vessels undergo marked dilatation. Stimulation of the peripheral end of a sensory nerve usually causes vaso-constriction of the part supplied. Stimulation of the splanchnics causes marked constriction of the vessels of the splanchnic area, with a rise of general blood pressure. The action of these nerves is controlled by a centre in the bulb. If this be stimulated directly by an electrical current there is an immediate rise of blood pressure. A similar effect follows the application of digitalis, strophanthus, alcohol, or strychnine, whilst opium or chloral causes a marked fall, with dilatation of the peripheral vessels.

Thus the size of the peripheral stream is in health dependent upon the action of the centre, and alterations in the blood pressure are chiefly caused by variations in the size of the vessels in the splanchnic area. These variations are brought about by the influence of afferent impulses to the centre, as may be shown thus: Stimulation of the central end of the depressor nerve in the rabbit causes a marked fall in the blood pressure, and this effect occurs after division of both vagi, and hence is not due to alteration in the rate or force of the heart beat. Stimulation of the central end of the sensory nerves is followed by a marked rise in blood pressure, but if the stimulation be continued the centres become exhausted and the pressure markedly falls. Now in a condition of shock this latter state is present, the vaso-motor centres have become exhausted by multiple afferent impulses, the vessels in the splanchnic area are widely dilated, and the peripheral blood pressure is low.

Crile,[2] Sherrington,[3] Cobbett and Roy, working on the condition of shock in animals, have shown that there is a constant relationship between the fall of blood pressure and the symptoms of shock present, and that the fall of peripheral blood pressure is accompanied by a rise of pressure in the portal area, the blood all accumulating in this latter position.

The experiments of Crile[2] were carried out as follows. The animals used were dogs. They were anæsthetised and mercurial manometers were inserted into different vessels in the circulatory path. They were then subjected to various operations and the condition of the pressure and shock noted. After death a necropsy was held and the condition, more especially with reference to the amount of blood in the different vessels, was investigated. When subjected to severe and repeated trauma it was found that there was a primary rise in the blood pressure, soon followed by a marked fall, and when this fall reached a certain level the symptoms of shock became evident; if the trauma were continued the shock increased, the fall of pressure became more marked until it reached the zero line, and the animal died. These symptoms were not due to any cardiac influence, for they were produced after the cardiac inhibitory apparatus had been cut out by section of the vagi, and in all these cases it is not only found that the heart works as rapidly and as forcibly as is usual, but that its action is augmented in a vain attempt to maintain the pressure.

In all cases where death was produced there was a marked increase in the amount of blood in the splanchnic area, the fall of pressure therefore being caused by a dilatation of these vessels. In certain operations, which will be further considered presently, where the trauma was applied to the intestines, the vessels in the splanchnic area were seen to

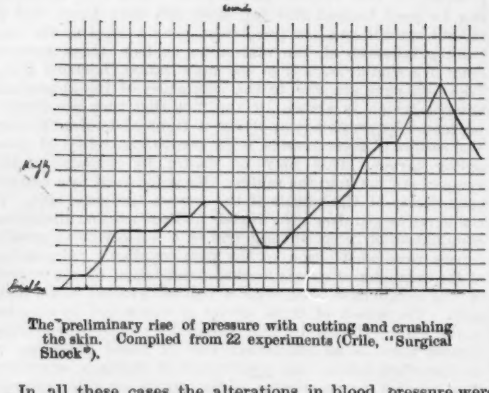
[2] The male crescents are seen in the top line, the last five of the lower line being female forms.

* A paper read before the London Hospital Medical Society. (The superior figures refer to the bibliography at the end of the article.)

dilate *pari passu* with the fall of blood pressure, and with the increase of shock.

In many cases the early part of the trauma, such as the primary incision or dilatation of the sphincters, caused a preliminary rise in the blood pressure, which was later followed by a marked and steady fall (see Fig. 1). This corresponds exactly with the changes mentioned above as following stimulation of the central end of a peripheral nerve.

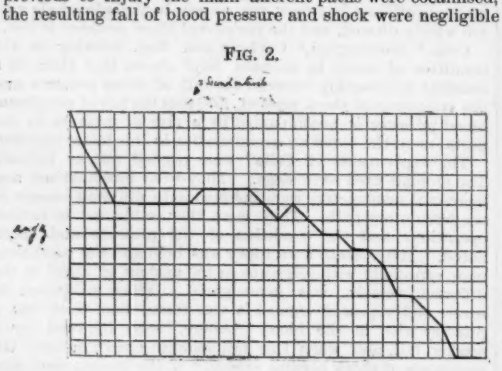
FIG. 1.



The preliminary rise of pressure with cutting and crushing the skin. Compiled from 22 experiments (Crile, "Surgical Shock").

In all these cases the alterations in blood pressure were due to changes in the conditions of the vessels, and that these changes were caused by impulses conveyed to the vaso-motor centres was shown by the fact that: The amount of shock was directly proportional to the amount of injury to the nerves of the part, and the more specialised and abundant the nerve-supply of a part the more did it contribute to the production of shock when subjected to injury. Thus muscles, joints, and bones without periosteum may be injured with but little alteration to the blood pressure. If the periosteum be present the fall of pressure on division will still be present. If a peripheral part, such as the paw of a dog, were cut there was but little fall of pressure; when crushed the fall in pressure and consequent shock were much more marked. When nerve trunks were injured there was a primary rise followed by a marked fall. If previous to injury the main afferent paths were cocainised, the resulting fall of blood pressure and shock were negligible

FIG. 2.



The fall of pressure on exposing and manipulating the intestines. Compiled from 15 experiments (Crile, "Surgical Shock").

however severe the trauma. In this connexion it was found that the amount of shock depended upon the part injured, and owing to the importance this bears upon general surgery it must be considered more fully. Incisions in the skin cause a primary rise, as mentioned above, followed by a fall, but in certain areas where the nerve supply is great the fall may be immediate. The most important of these are the skin of the abdomen and scrotum. Injuries to the abdominal contents cause a marked fall in the blood pressure; here there is a free nerve supply of the branches of the sympathetic, and much smaller stimuli are appreciated, so that if an animal's abdomen be merely opened and the intestines exposed there is soon a marked fall of peripheral blood pressure, a rise of pressure with dilatation of the vessels in the splanchnic area and symptoms of shock (Fig. 2). The fall in pressure could be checked by the application of warm saline solution to the peritoneal cavity. If previous to the trauma the superior mesenteric artery were clamped, the fall in pressure either took very much longer to occur or did not occur at all. Operations upon the brain were associated with a very marked fall of pressure. A similar marked fall, starting early and associated with no preliminary rise, accompanied operations upon the testicle. This could be entirely prevented by a previous injection of cocaine into the tunica vaginalis or cord.

The shock produced in these experiments may therefore be regarded as being due to multiple afferent impulses passing along the nerve trunks, and it is conceivable that these impulses might cause the fall of blood pressure by one of two methods—either they might stimulate a centre so that impulses would be passed down vaso-dilator nerves, leading to an active dilatation of the splanchnic area, or the vaso-constrictor centre, which is continuously acting, might have become paralysed, and hence the vessels dilate atonically. That this latter is the case is shown by two further experiments by Crile.

When profound shock is established the centres cannot be stimulated, as they can in health, by the administration of brandy or strychnine. When the vaso-motor centres are cut out by injecting a 2 per cent. solution of cocaine into the medulla profound shock was produced, the blood pressure fell from 115 millimetres of mercury to 50 millimetres, respiration ceased and had to be continued artificially. Electrical stimulation of the sciatic nerve and injection of strychnine caused no rise in pressure. A similar result was caused by destroying the centres by pithing. In addition to these changes in pressure due to alterations in the size of the vessels in the splanchnic area there are in animals alterations in the blood itself which probably greatly help to bring about this fall of pressure and point to a line of treatment which, as will be shown later, has proved to be most efficacious.

The experiments of Sherrington and Copeman [3] have shown that operations, especially those involving exposure of the peritoneum, upon healthy animals are followed by a loss of fluid from the blood and a rise in the specific gravity. In one experiment this rose from 1·054 to 1·062 in 15 minutes. This condition has been found to last for several days and then slowly passes off. In cases of burns or other lesions causing a large destruction of the skin it is well marked and probably occurs by evaporation. Since by this means the total amount of blood is decreased the pressure will obviously fall, and the increased viscosity with subsequent rise in friction will tend to the formation of thrombi, and Watson Cheyne has shown that in such cases coagulation may occur in the pulmonary vessels. Although the amount of blood is decreased, absorption of fluid in shock is greatly delayed (van Engleman), which has been thought to be due to an arrest of metabolic processes.

Shock, then, in animals may be defined as a condition of decrease in blood pressure due to vaso-motor dilatation of the splanchnic areas, which dilatation is caused by multiple impulses passing along the afferent nerve paths; these impulses at first cause an increased action of the centre, which is soon followed by paralysis. The condition is assisted by a decrease in the total amount of the fluid constituents of the blood. In man the conditions are much more difficult to determine; operations cannot be carried out in the same experimental way, hence the amount of shock cannot be regulated and the required factors cannot in all cases be introduced.

The blood pressure cannot, of course, be determined and accurately recorded in the manner undertaken with animals, and hence some other method has to be utilised. Many instruments have been devised for this purpose, but it may at once be said that the Riva-Rocci has been proved clinically to be quite satisfactory. The instrument is now well known and consists of a rubber bag, which is strapped round the limb by a leather band; from it passes a thick rubber tube leading to a mercurial manometer. The bag can be pumped up by a rubber ball with valves. When it is partially blown up the mercury is seen to oscillate with the pulse-beats. Either the systolic or diastolic pressure may be obtained by its use. The simplest to record and the less liable to error is

the former; to obtain it the pressure in the bag is increased until the oscillations just cease; the pressure is then lowered until the mercury just begins to oscillate again; the mean of these two readings of the manometer is taken and corresponds to the systolic pressure. The diastolic pressure corresponds to the point at which the oscillations are at their greatest. The mean blood pressure is that which is required for a most accurate understanding of the patient's condition, and it can be deduced from the above. For clinical purposes, however, the systolic pressure is sufficient. In taking any readings with it the patient should be kept horizontal to avoid any alterations in pressure due to change of position. This method is very simple, and after a short trial accurate readings may be taken by an intelligent nurse. The readings of this instrument have been carefully compared—first, with the readings of manometers in the vessels of animals (Lockhart Mummery)[1]; and, secondly, in the dead, on limbs artificially injected with a known pressure—and the margin of error has been found to be very small.

A large number of experiments have now been made in man with this instrument, and it has been found that in health there is a slight change in pressure when the position is altered. If the reading be taken from the arm there is a slight fall owing to the action of gravity when the patient is placed upright. This is very slight owing to compensation by the vaso-motor system. In disease this is markedly increased, as is well shown clinically by the tendency to syncope when a patient first assumes the erect posture after an exhausting illness. In many diseases, more especially those in which there is considerable irritation of areas well supplied with nerve terminals and those associated with a loss of fluid, there is nearly always a marked fall. An example which more immediately concerns us here is acute general peritonitis, where there is a steady fall before operation is commenced. That the pressure is markedly low in Addison's disease has been known for long and will demand our further attention when the treatment of shock is considered.

The condition of the blood pressure has now been carefully investigated in many operations in which shock has been produced. Cushing and others have recorded many cases where the above instrument was used, and it may be stated that in man the blood pressure has been found to react in these cases in a manner similar to that of animals subjected to experiment. Thus it is seen that, as in animals, the amount of shock and the fall in pressure are proportional to the amount of nerve injury. Lockhart Mummery[1] records a case of excision of the breast where there was much traction upon the brachial plexus; in this case the pressure fell from 135 to 60 millimetres of mercury. In all cases of operation upon acute abdominal conditions the fall is very marked, and, as mentioned above, in these cases the condition itself, apart from operation, causes a considerable fall, hence it is that these cases form so large a percentage of the deaths that occur in any surgical ward. In accidents associated with much laceration of the soft tissues the shock is considerable, and they correspond with the cases of experimental crushing of a limb in animals recorded by Crile. In many cases, as in animals, the primary incision or early stimulation of an afferent nerve trunk is accompanied by a rise in pressure; as the stimulation is continued the pressure begins to fall.

The course of events may then be looked upon as a primary stimulation of the centres, with vaso-motor contraction and consequent rise of pressure. The centres now become overstimulated and are exhausted, the vessels dilate and the pressure falls. An attempt is made to maintain it by an increased rate of the heart beat, and the pulse is found to be rapid. In time the dilatation is such that the pressure cannot be maintained by the heart alone and steadily falls until either the centres recover or the patient dies.

Such, then, is a brief outline of the methods which have led to the present state of our knowledge of shock in man, and it may now be accepted that the state is one of exhaustion of the vaso-motor centres, which state is brought about by severe afferent impulses, and which manifests its symptoms by a fall of blood pressure, with ultimate loss of nutrition to, and function of, the vital centres in the brain and cord. In any severe operation in man there are other factors, however, apart from the mere trauma, which tend to keep up or produce the condition, and these will now have to be considered.

The length of the operation.—As long as the operation continues, the centres will be getting more exhausted and the condition of shock will be increasing. The clinical recognition of this fact is well seen in cases of intussusception in children, where it is well known that the hopes of success depend, to a very large measure, upon the rapidity with which the operation can be completed. In a large number of cases, however, the introduction of asepsis and anæsthetics has tended to abolish the old methods of rapidity, and operations were undertaken which often lasted for some hours. Of late years the importance of this fact has been recognised, with the result that operations are more rapidly completed, quicker methods having, with an advance of knowledge, been introduced. The length of time occupied by the operation is of increasing importance where the condition of the patient is poor. Elderly people, those who have previously been ill-fed and subjected to hardships and those who have undergone a long and trying illness, will fail to maintain their blood pressure even for a short time.

In acute abdominal conditions the centres are being exhausted before the operation is commenced, and thus the length of time that the surgeon has at his disposal during the course of the operation will decrease *pari passu* with the length of time the condition has existed previously, so that in these states the prognosis will almost wholly depend upon the time the patient has been affected before advice is sought. In children this factor is even more important, for in them the different stages are more rapidly passed through, and the stage of shock is sooner reached. In a similar manner the amount of trauma will influence the subsequent fall, and delicate tissues such as the intestines should be exposed and manipulated as little as possible during the course of an operation.

Anæsthetics.—The action of anæsthetics in regard to shock has to be considered from two points of view. Firstly, by producing unconsciousness the effects of the afferent impulses are markedly decreased. Not only are the higher centres of consciousness unable to appreciate the trauma, but the lower reflex centres are not so markedly affected, and the condition of syncope, which would increase the shock, is decreased or absent. Hence, with all anæsthetics the shock tends to be less than without them. On the other hand, they may themselves be toxic in their action on these centres, their absorption tending to an early exhaustion of them. The different anæsthetics vary greatly in these respects.

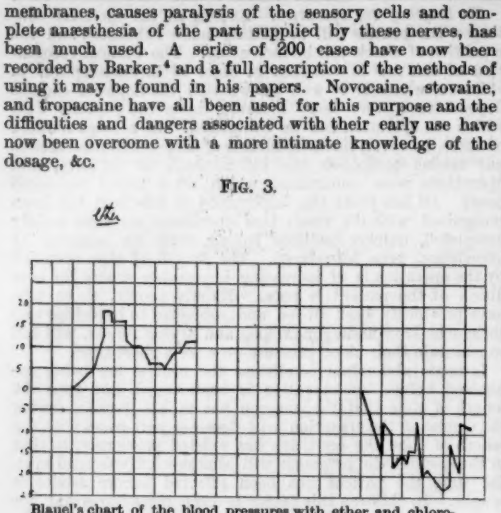
Ether.—With this drug it is found that there is a preliminary rise in the pressure which is maintained throughout the whole course of the operation, and any fall which occurs is due to the operation alone (Cook, Briggs, Blauel, Mummery). Hewitt[5] describes two forms of surgical shock, one of which, the respiratory, occurs early in the course of anæsthesia, and is more marked with those having some respiratory obstruction; hence, presumably, it would be more marked with ether than with chloroform anæsthesia. This form of shock, however, occurs only during the course of the anæsthetic, and is a totally different condition from that which we are considering now; it certainly causes no lowering of the blood pressure. The absence of shock is not in these cases due to any stimulant effect of the drug, for, as has been pointed out, when shock is present the centres absolutely fail to react to any form of stimulation; in fact, stimulants only further exhaust the centres and aggravate the condition.

Chloroform.—This, on the other hand, is accompanied by a steady fall of blood pressure throughout the whole course of its administration (Hewitt,[5] Blauel, Crile[2]). Hewitt, speaking on this point, says that all physiological blood tracings show a steady fall with chloroform and that shock (his second variety or circulatory shock) occurs late, when the anæsthesia is deep; of his series of 71 cases, 59 occurred when chloroform or a chloroform mixture was being administered, and he states that "as to anæsthetics under which circulatory shock is most common there is no doubt that chloroform is, *par excellence*, the agent which specially predisposes to this condition, owing to its power of reducing blood pressure." The different effects of the two anæsthetics is well shown by Blauel's chart (Fig. 3), calculated from 25 cases of ether and 18 of chloroform, all in cases over 20 years of age and with an anæsthesia of 50 minutes. Hence it may be stated that with ether the blood pressure is well maintained, whilst with chloroform there is a steady fall.

Spinal anæsthesia.—Of late years this method, which, by the introduction of a local anæsthetic within the spinal

membranes, causes paralysis of the sensory cells and complete anæsthesia of the part supplied by these nerves, has been much used. A series of 200 cases have now been recorded by Barker,[4] and a full description of the methods of using it may be found in his papers. Novocaine, stovaine, and tropacaine have all been used for this purpose and the difficulties and dangers associated with their early use have now been overcome with a more intimate knowledge of the dosage, &c.

FIG. 3.



Blauel's chart of the blood pressures with ether and chloroform anæsthesia. (L. Mummery, "Physiology and Treatment of Surgical Shock and Collapse.")

It has been shown that spinal anæsthesia does not, *per se*, cause the slightest fall in blood pressure, and that operations performed by this method, even in old and much exhausted people, are accompanied with remarkably little shock. About 0·05 gramme of the drug (stovaine) should be used. Many objections have been raised against it, but these would seem to be rather more sentimental than real and present results would point to this method occupying a prominent position in the future in the treatment of emergency surgical conditions.

The loss of blood and other fluids.—The loss of fluids does not actually produce shock but a condition of collapse. As, however, the symptoms in either case are due to the fact that the higher centres are not supplied with blood, it follows that a condition of shock is more likely to be brought about when the loss of blood is great, the dilated splanchnic area containing a relative greater amount of the fluid left. The same argument would, of course, hold good where there is a large amount of inflammatory fluid exuded, and this factor is probably an important one in cases of acute general or diffuse peritonitis, and is one of the causes of the early appearance of shock in these cases, although doubtless the result is more largely caused by toxic factors acting directly upon the centres.

It has already been pointed out that operations upon the head are often accompanied with severe shock. Now, these cases are in the majority associated with considerable hæmorrhage, and there is undoubtedly a close relationship between the two, as is seen by the fact that when precautions are taken to prevent this hæmorrhage, as will be described presently, the amount of shock will be greatly decreased.

TREATMENT.

The main causes of shock, direct and indirect, having been mentioned, the preventive and curative methods of treatment may now be considered.

(*a*) *Preventive.*

The greater number of these cases are emergency conditions, in which a certain amount of shock is already present, and thus, unfortunately, but little can be undertaken in the way of preventive measures. In other cases much may be done to increase the patient's resistance; and, what is more important, much may be left undone which under mistaken ideas was formerly very prone to bring about this condition.

In the preparation for operation drastic purgatives should not be given; these, by producing a temporary watery diarrhœa, cause a fall in the blood pressure; this is more likely to be the case in operations upon the rectum, and as the older methods, such as Kraske's operation, are still occasionally undertaken and are accompanied by a great deal of shock, this is specially to be avoided. The method now adopted as a routine in this hospital will be found the most useful in this respect. Either two nights or the night before the operation one dose of a purgative is administered, next morning an enema is given, and thus the bowels are only opened once or twice, and incontinence during operation is also avoided.

As regards dieting previous to operation, too much may be done from a fear of post-anæsthetic vomiting, but I feel certain that this is a fear which has been much exaggerated. One constantly sees cases in which no food has been administered for eight hours before an operation and yet vomiting occurs, the vomit containing undigested solid food; and it would seem that, under the fear or apprehension of the approaching operation, the progress of digestion is greatly retarded; therefore, to avoid this vomiting, no food would have to be given for a period which would be too long for practical purposes. Moreover, in the majority of these cases no harm follows the vomiting, and death or inconvenience is rare. It is a noticeable fact that when post-mortem acid digestion of the lungs is found nearly all the cases are those of general peritonitis and do not occur with simple anæsthetic vomiting; and if one regards such changes as due to the inhalation of gastric contents, as appears most probable, it would seem as if the bad effects of vomiting on the respiratory system only occur with the more severe type found in peritoneal affections.

The following figures taken from the records of this hospital are of great interest from this point of view:—In the period of 14 months (Jan. 1st, 1907, to March 1st, 1908) the total number of anæsthetics administered was 18,639. In the same period the total number of cases showing acid digestion of the lungs post mortem was 47. The number of these that had been operated on was 26. Of these general peritonitis was present in 21. Of the remaining 5, 3 had epithelioma of the tongue, jaw, or larynx, and thus the changes were probably largely due to inhalation pneumonia. 1 followed nephrorrhaphy. 1 followed amputation of an arm.

Thus, of 18,639 operations only 26 showed acid digestion of the lungs; of these 21 had general peritonitis and only 2 are left in whom the condition might possibly have been due to anæsthetic vomiting. But when we examine the 21 cases without operation we find:—General peritonitis present in 7; gastric ulcer (causing death) in 1 (vomiting of peritoneal origin); septicæmia in 4; perforation of cancer of the œsophagus to the lung in 2; burns in 4 (probably early post-mortem or septic changes); diabetes in 1; accident in 1; pneumonia in 1 (cause unknown). Thus, in this series we find an even larger percentage with acid digestion from no known cause which could not have been the administration of an anæsthetic, as none was given; and therefore it is probable that this unknown cause in the first series might have been some factor other than the anæsthetic.

Of course, food should not be given so shortly before an operation that gastric distension is caused. In this hospital the more rational course is now pursued; the patient is encouraged to take as large a breakfast as possible eight hours before operation, a cup of beef-tea is then given about five hours, and a second about three hours before operation. The only objection that can be raised against this course is the stimulant properties of the beef-tea; it might probably be better replaced by some light fluid diet.

The anæsthetic must be carefully chosen and in all cases where possible ether should be administered, or if chloroform be given this should be in mixture with ether. Should there be any marked counter-indication to the use of ether spinal anæsthesia would, from the point of view of shock alone, be indicated in preference to chloroform.

In the direct prevention of the fall of blood pressure many methods may be adopted. Undoubtedly the best of these is the pneumatic suit introduced by Crile. It consists of a rubber suit which is applied to the body and limbs, the pressure within being raised and maintained at any level by means of a hand pump. If, at the same time, blood pressure tracings are taken and recorded at short intervals, the pressure may be kept absolutely under control. As Crile points out, its use is specially adapted for operations upon the head; as has been pointed out, these operations are often associated with marked shock, which is accentuated by the accompanying and often severe loss of blood. By the application of the suit the shock may be prevented, and by sitting

the patient up the bleeding can be greatly diminished, the steps in the operation being thus made clearer and the difficulties lessened.

Since the condition of shock is chiefly due to the accumulation of blood within the splanchnic area, this method cannot be so satisfactorily used in acute abdominal cases. In these, however, some good may be accomplished by applying such a suit to the limbs, or having these tightly bandaged previous to operation. Crile's experiment, showing that abdominal operations were free from shock when the superior mesenteric artery had been previously clamped, suggests that some means of temporary ligature might, in these cases, be adopted. The method of such temporary ligature in the case of the common carotid artery was, I believe, first introduced by Mr. Rivington,[6] of this hospital, and several other cases were dealt with in a similar manner by Sir Frederick Treves.[7] In one case the temporary ligature was applied for half an hour with no subsequent complication. Crile has invented a rubber-coated clamp which he has applied to the common carotid, and states that in dogs it may be kept in position for as long as 24 hours without damage to the artery. Hence it is possible that a similar clamp might be used for a short period on the superior mesenteric artery, but further experiments, showing how long the gut might safely be left without its blood-supply, are necessary before such a method is brought into practice.

The fact that exhaustion of the vaso-motor centres is caused by afferent impulses passing along the main nerve trunks suggests that any method which will prevent the passage of these impulses will be of value in preventing shock. Crile adopted the method of injecting cocaine into the main nerve trunks in his experiments, and no shock resulted, however severe the injuries. Lockhart Mummery and Cushing have also used this method in man previous to large amputations, such as the fore-quarter, and found that there was no fall of pressure on dividing the nerves, but in cases of a similar nature where this previous treatment was not adopted there was a marked fall. This method being very simple and having a marked effect deserves a far wider application in all cases of amputation of a limb. A 2 to 4 per cent. solution of cocaine should be used; at the same time trauma to any area richly supplied with nerves should be limited as far as possible. This is specially so in the case of abdominal operations; here mere exposure of the intestines is sufficient trauma to cause a marked effect, although it is perhaps aided by evaporation from the exposed peritoneal surfaces. Hence evisceration should be avoided as far as possible, and if it be found necessary to turn out the intestines they must be protected by sterile towels wrung out in hot saline solution.

The next question that has to be considered is the maintenance of the bodily heat. This should be kept as near normal as possible, as it is found that shock is always associated with a fall of temperature, and it seems highly probable that this may be a causative factor. It may, however, easily be overdone, and if the patient be made to sweat freely there is no doubt that the excessive dilatation of the capillaries will largely aid in keeping down the already lowered pressure; at the same time the free loss of fluid by evaporation will tend to keep up the concentration and high specific gravity of the blood, which has been shown to be constantly present in this condition.

(*b*) *Curative.*

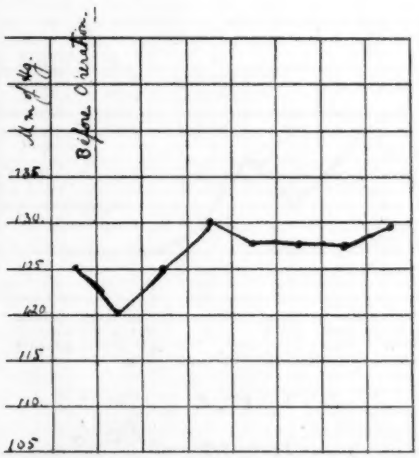
The curative methods to be made use of when once the condition has been established will have to be considered under the following headings: Drugs, Infusion of fluids, and Mechanical methods.

Drugs.—It is in this direction that general improvement in the lines of treatment is most necessary. In a large number of cases the condition of shock is largely treated by dosing the patient with strychnine and by administering coffee and brandy either by the mouth or as enemata. As will be shown, such treatment appears to be not only useless but positively dangerous, and one is often struck by their marked failure in severe cases to cause any reaction whatever; in fact, the patient tends to go steadily down hill.

The effect of various drugs in this condition is as follows:—

Strychnine.—In health this has been shown to have a very marked effect upon the blood pressure; the vaso-motor centres are stimulated, the peripheral vessels thereupon contract, and this is followed by a marked rise in the pressure. A similar change occurs with very slight degrees of shock. But in the more severe degrees, since the whole condition is due to an exhaustion of these centres, one would not expect that their stimulation would be followed by any valuable result; in fact, a further exhaustion would be expected. As already mentioned, Lockhart Mummery[1] and Crile[2] have shown that in profound shock in animals there is no rise in pressure after the administration of strychnine and the former has also shown that in the same condition in man there is no rise. In very slight cases, then—i.e., those that really require no drug treatment—there is a reaction to the drug, as is shown in Fig. 4. This chart,

FIG. 4.



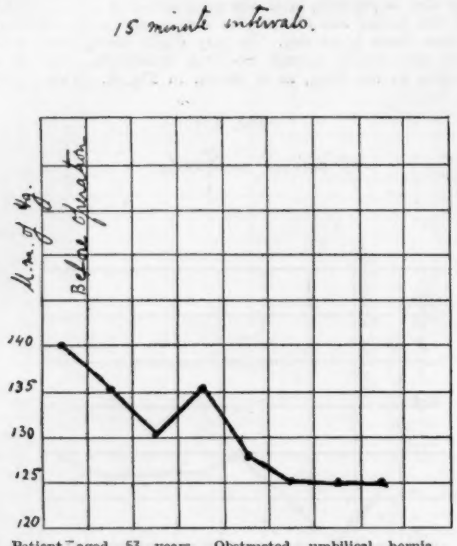
Patient aged 11 years. Fæcal fistula. Lateral anastomosis. The patient was given strychnine, 1-60th of a grain, and a second 1-60th a quarter of an hour later in the theatre. On returning to the ward one ounce of brandy was given. The very slight amount of shock and the ready reaction to stimulants are seen.

together with the five following, I have been able to obtain by the aid of one of the sisters here and by the courtesy of Dr. G. F. Bird and Dr. R. S. Woods. In this case the pressure never fell more than five millimetres of mercury below the normal and therefore never presented symptoms. In slightly more severe cases there is a preliminary rise, but this is soon followed by a more marked fall, the subsequent height of the pressure being less than that before the administration of the drug. Such a condition is well shown in Fig. 5. In severe cases of shock this preliminary rise is absent also and the use of strychnine with stimulants is followed by a steady fall in pressure. It has been suggested that these effects are due to the fact that absorption does not take place owing to the lowered pressure; that this is not so is shown by the fact there is no rise even if the drug be injected intravenously. The same ill-effects are likely to occur with preliminary injections of strychnine as a preventive measure; one dose of 1-60th or 1-30th of a grain given immediately beforehand is only likely to lead to an exhaustion of the centres and thus render them less able to resist the causes of shock. Lockhart Mummery has, however, suggested that the drug might in certain cases be given regularly for about a week before operation in the hope of causing physiological hypertrophy of the centres. Figs 6 and 7 are from cases of severe shock treated with strychnine; the contrast with Fig. 4 is striking; not only is there no reaction but a steady fall occurs.

Other stimulants.—An effect similar to that caused by strychnine follows the use of other stimulants, as shown both by experiments upon animals and by clinical observations.

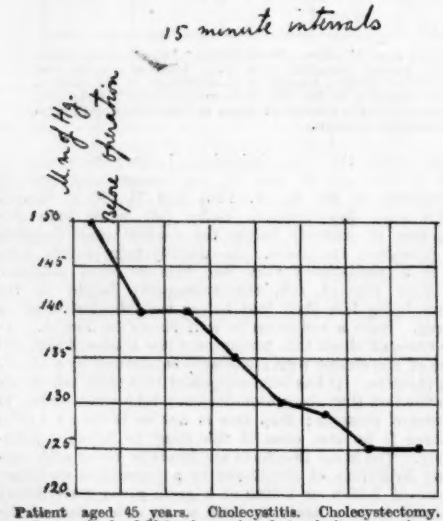
With ether and brandy the harmful effects are more marked, for these drugs cause a dilatation of the peripheral vessels. Thus it may be stated that these drugs should not be given in cases of moderate or severe shock as they are only liable to increase the fall in pressure and that their use previous to or during operation is to be condemned on the same grounds.

FIG. 5.



Patient aged 53 years. Obstructed umbilical hernia. Moderate shock. 1-30th of a grain of strychnine and four ounces of brandy were given. The slight rise of pressure followed by a more marked fall is well seen.

FIG. 6.



Patient aged 45 years. Cholecystitis. Cholecystectomy. *Severe shock.* 1-30th of a grain of strychnine was given. There is a steady fall of pressure from the commencement. Two pints of saline solution were also given per rectum.

Atropine acts in somewhat similar manner, causing a preliminary stimulation followed by paralysis of the vaso-motor centres.

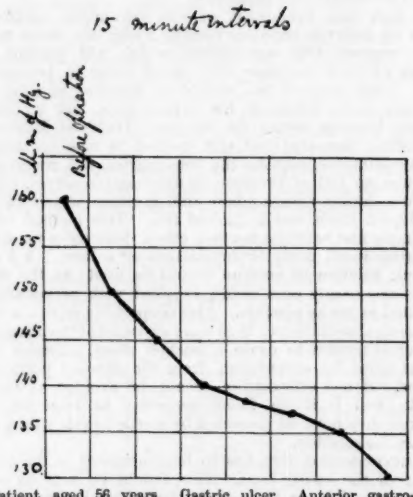
Cardiac stimulants.—Good examples of these are digitalis and strophanthus; they act by stimulating the heart itself and thus affect the other factor concerned in the maintenance of the pressure. But, as previously shown, in cases of severe shock, the rapidity of the heart has already increased as far as possible but has failed to overcome the fall, hence but little good is likely to follow the use of such drugs, and clinically such is found to be the case.

The next series of drugs to be considered has a completely different action, the exhausted centres are left untouched and allowed to recover naturally, but the vessels themselves are directly stimulated to contract, and as they are not exhausted this would be expected to be followed by a marked reaction with a rise in pressure.

Suprarenal extract.—Of the drugs at present in use this has the most evident effect upon the blood pressure and causes a considerable rise. Its action in causing contraction of the peripheral arterioles is now well known. Mummery and Crile have shown that its injection in cases of severe shock is followed by a very characteristic rise in pressure, and in the case of the pithed animal, previously mentioned, Crile found that strychnine had no effect, but the injection of suprarenal extract caused the pressure to rise again to the level of normal. If given by the mouth its composition seems to be altered so that no effect follows.

It is stated that when given subcutaneously there is no absorption owing to the local contraction of the vessels, but

FIG. 7.

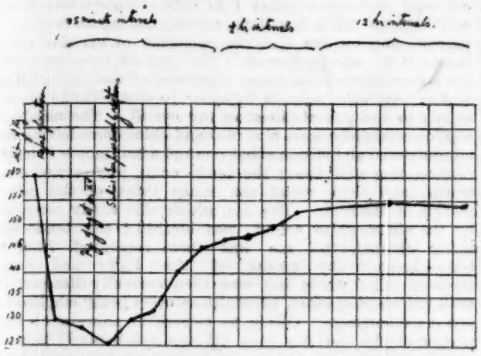


Patient aged 56 years. Gastric ulcer. Anterior gastro-jejunostomy. *Severe shock.* Patient was given 1-30th of a grain of strychnine and one ounce of brandy. There is a steady fall of pressure from the commencement. Two pints of saline solution were also given per rectum.

in a case of elevation of a depressed fracture of the skull and removal of a large area of bone this method used continuously was followed by a marked improvement. The pulse immediately after operation could not be felt at the wrist, but a quarter of an hour after injection had been commenced it was nearly as strong as normal and the patient made a perfect recovery. I regret that in this case no tracing was taken. It is probable then that some absorption does take place, but it is liable to be followed by some local necrosis and therefore this method should not by preference be used. In the same way it is stated that if given by the rectum either it is not absorbed or is altered in composition before absorption. But in many cases where the patient has been treated by this method a well-marked reaction has been shown by tracings (Figs. 8 and 9). It may be claimed that the whole effect in these cases is due to the fluid absorbed at the same time, but in other cases (Figs. 6 and 7) where fluid was given with no suprarenal extract the effect was either absent or not so marked. So from these observations it would seem to be a useful method of administering the drug, and, for reasons which will be mentioned later, is the method to be adopted for preference. It is usually given by continued intravenous injection, but this presents some practical difficulty. A similar effect follows the use of hemisine.

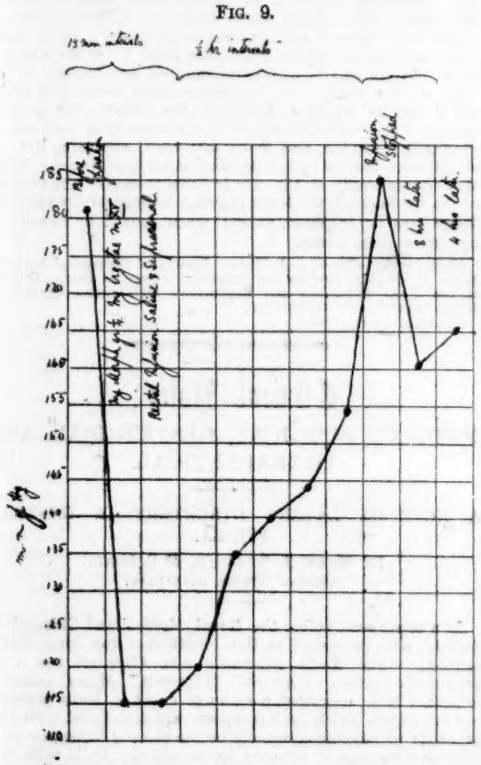
The objection to the use of these derivatives of the suprarenal gland is that their effect lasts only for a few minutes, three or four; this is, however, readily overcome by continuous injection, which may be made to last some hours,

FIG. 8.



Patient aged 25 years. Strangulation of gut by diverticulum. *Severe shock.* Patient was given ergot hypodermically and continuous rectal infusions of saline solution and suprarenal extract 1-160000th Oi. per hour, also injections of morphine ¼ grain. The rise in pressure after the suprarenal is well marked.

FIG. 9.



Patient aged 52 years. Amputation of breast, removal of axillary glands. *Severe shock.* Patient was given ergot hypodermically, and continuous rectal infusion of saline solution and suprarenal extract 1-160000th Oi. per hour, also injections of morphine ¼ grain. The marked fall in pressure from the operation, and the steady rise, even to above normal, are well shown.

and thus the effects of the drug maintained until the condition of shock has passed off, and as it produces its effects even when given in small doses, sufficient is not administered even by these continuous methods to give rise to any toxic symptoms. Crile advises that it should be given in a 1-50000 or 1-100000 solution. The strength I prefer is 1-160000, that is one drachm to the pint of the solution sold. This is a dilution easy to remember and to make up, and appears to be sufficiently strong for its purpose. The dilution is made with normal saline solution.

As regards the method of administration, intravenously is perhaps the best physiologically, but it necessitates the formation of a new wound with after-pain to the patient, and it is more difficult to manage. When the fluid is given for some hours it must be left in charge of a nurse, to whom the methods of dealing with blockage of the tubes, leakage, &c., often present considerable difficulties. Subcutaneous injection has the same objections, with the addition that the insertion of a large quantity of fluid here, even if given slowly, may cause considerable pain, and, if the solution be too strong, may even cause sloughing of the overlying skin. In one case where the solution was given 1-20000, an area about six inches by four inches sloughed out of the inner side of each thigh, and necessitated subsequent skin grafting. Continuous rectal injection presents none of these difficulties. A rubber tube is arranged as a syphon from the bowl of fluid, which is raised about one foot above the level of the patient. At the other end of the tube is connected a glass vaginal nozzle, which is passed three or four inches up the rectum, and the fluid, at a temperature of from 108° to 112° F., is allowed to run in at the rate of one pint an hour. The only objection that can be raised is that the absorption of the extract does not take place, but I have already shown that this objection does not seem to hold good.

Ergot.—The effects of this drug are very similar to those of the suprarenal products, but they last considerably longer. Lockhart Mummery,[1] experimenting with it upon a cat, showed that a steady rise was caused which was maintained for 20 minutes. The objections to it are that its preparations are uncertain; a useful and fairly reliable one is the B.P. hypodermic injections, as made at the dispensary of this hospital—15 minims will be found a useful dose.

Morphine.—As already mentioned, the anæsthetic, by decreasing the pain and the afferent impulses to the vaso-motor centres, decreases the amount of shock. As the effect of the anæsthetic passes off and the pain of the wound becomes again appreciable it would be expected that the shock would be more marked, and such is often found to be the case; Figs. 5, 6, and 7 show a steady fall of pressure after the operation has ceased. By giving morphine this appreciation of pain is much decreased and the condition of shock is not maintained; morphine is also well known as a cardiac stimulant and is thus of use for this effect.

(To be concluded.)

EXTIRPATION OF THE LACRYMAL SAC.

BY O. J. CURRIE, M.B. LOND. & CAPE UNIV., M.R.C.S. ENG.,
SURGEON TO GREY'S HOSPITAL, PIETERMARITZBURG.

THE lacrymal sac is deeply situated at the lower and anterior part of the inner wall of the orbit, resting on the lacrymal groove. It forms the upper dilated end of the lacrymo-nasal duct, which drains the conjunctival sac and conducts superfluous tears into the nasal cavity.

Dacryocystitis, or inflammation of the lacrymal sac, may be acute or chronic. Acute cases should be treated with hot fomentations, pus should be evacuated if an abscess forms, and the sac should be syringed out through the incision or through the upper or lower canaliculus. Probing the nasal duct should not be resorted to until after syringing out the sac has been given a trial, and not in any case until the acute symptoms have subsided. Chronic dacryocystitis should be treated as follows. First, by syringing out the sac with antiseptic and astringent lotions, such as solutions of boric acid, chinosol, or argyrol; secondly, if perseverance in the above treatment fails, by slitting the upper or lower canaliculus and dilating the nasal duct with probes; and thirdly, in neglected or intractable cases which cannot be cured by the above means, destruction or extirpation of the lacrymal sac is necessary.

Theobald mentions the following surgical procedures for the cure of dacryocystitis: (1) The restoration of the natural passages; (2) the formation of a new passage into the nose; (3) the obliteration of the natural passages, the lacrymal sac and duct; and (4) the removal of the lacrymal gland. Desmarres recommended the third of these proceedings only when the case was incurable by other means. Theobald agrees with this and recommends the use of large-sized probes as a means of restoring the patency of the nasal duct.

H. Knapp gives the following indications for extirpations of the lacrymal sac, viz.:—In all cases where an important lacrymal disease can otherwise not so well or not at all be cured, as in the following conditions: (1) Large mucocele; (2) chronic lacrymal fistula; (3) fibrous or osseous occlusion of the nasal duct with lacrymation and discharge; (4) chronic stricture of the nasal duct with lacrymation and discharge; (5) chronic dacryocystoblennorrhœa with degeneration of the walls of the sac; and (6) chronic catarrhal dacryocystitis with repeated attacks of phlegmonous inflammation.

Although destruction of the lacrymal sac by the actual cautery in cases of lacrymal fistula appears to have been performed in the days of Celsus it was not till 1724 that the more surgical procedure of extirpation by the knife was performed by Platner, and there still seems to be some divergence of opinion among surgeons as to the indications for the operation and also as to whether the knife or the cautery should be employed. I think it is now generally recognised that the operation might be more frequently performed than it is in cases of dacryocystitis, which, owing to neglect of the patient or perhaps unwise or too vigorous treatment in the early stages, have lapsed into a state of chronic suppuration. The old treatment by caustics or the cautery is now being rejected in favour of the cleaner and more surgical proceeding of extirpation.

The objections urged against the operation are its dangers and difficulties. The chief danger is orbital cellulitis and its complications, which can be avoided by careful asepsis and by drainage of the wound. The sac must be frequently syringed out with an antiseptic lotion for some days before the operation in order to diminish the risk of infection of the wound, and drainage by means of a few strands of catgut or a fine strip of gauze should certainly be employed in order to give exit to any blood or serum which might form a nidus for the growth of pathogenic germs in the depths of the wound.

The difficulties of the operation arise from the deep situation of the sac beneath the tendo oculi and from the field of view being obscured by hæmorrhage. The former can be readily overcome by making the incision sufficiently free and by the use of suitable retractors, such as Axenfeld's, and the latter is now avoided by sponging out the wound with adrenalin solution (1 in 1000).

It is a curious fact that complete removal of the lacrymal sac results in a cure of the epiphora. There are two theories to account for this apparent paradox. 1. Physiological sympathy induces the gland to cease secreting. 2. That under normal conditions the amount of tears secreted by the gland is only sufficient to keep the conjunctiva moist and that in health, unless under exceptional circumstances, such as emotion or irritation of the conjunctiva, there is no excess of tears and no overflow down the nasal duct. Probably both these hypotheses are correct, as it is stated that if a portion of the lacrymal sac is accidentally left behind it excites a reflex secretion of tears and keeps up watering of the eye. The following case, which has recently been under my care, illustrates many of these points.

A boy, aged 13 years, was kicked in the face by a horse about six years ago. The result of this accident was the formation of a lacrymal abscess and fistula. About a year after the accident he came under my care suffering from chronic dacryocystitis and lacrymal fistula. The treatment adopted consisted of first syringing out the sac; afterwards the lower canaliculus was slit and the nasal duct was probed. The edges of the fistula were curetted and on the establishment of drainage into the nose the fistula healed. The sac, however, continued to secrete pus, but the patient, refusing further treatment, ceased to attend and did not come under my care again till December, 1907. When I saw him then the lacrymal sac was secreting pus freely, the upper lid was covered with velvety granulations, the conjunctiva was intensely injected, and the cornea was inflamed, vessels beginning to extend into its substance, forming pannus. Great photophobia and lacrymation were prominent symptoms. Conjunctivitis and keratitis were also present in the other eye. The conjunctiva was washed many times daily with boric acid lotion, and the lacrymal sac was syringed out with chinosol solution 1 in 4000. This treatment was only kept up for a few days, as the boy again became impatient, and on Jan. 2nd the operation of excision of the lacrymal sac was performed. The mucous membrane along the upper edge of the tarsal cartilage of the upper lid was first excised with scissors in order to diminish the vascular supply to the granulations on the eyelid. The usual antiseptic precautions were observed and chloroform having been administered an incision about one and a half inches in length, commencing well above the tendo oculi, was carried downwards, and then round the inner third of the inferior margin of the orbit. The sac, which was easily recognised by its bluish-white colour, was cleared; the tendo oculi being divided, the sac was then separated from the bone beneath by means of the knife and curved scissors. The whole sac was then carefully dissected out with knife and scissors, adrenalin solution being employed to arrest hæmorrhage. Owing to cicatricial adhesions a small portion of the sac was torn off and left behind; this was afterwards dissected away and the wound was freely curetted. The canaliculi were cut through and the nasal duct, as far as possible, separated with fine scissors and knife from the lacrymal canal, and the upper part of the nasal duct divided. The wound was stitched up with fine silk, including the skin and tendo oculi with its fibrous expansion, and a small gauze drain left in the lower angle. As the eyelids were swollen and puffy for a day or two after the operation the gauze drain was kept in for three or four days. There was a certain amount of suppuration in the track of the drain but the temperature never rose above 99° F. and in about a fortnight the wound was soundly healed. The inflammation of the conjunctivæ and corneæ gradually subsided, and when last seen, excepting for the slight scar, the eye had quite its normal appearance. There was no weakening of the lids in consequence of the division of the tendo oculi, the latter having been carefully stitched. There was no epiphora, except when caused by emotion or any unusual irritation.

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Pietermaritzburg, Natal.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON LATENT DYSENTERY IN CENTRAL AFRICA.

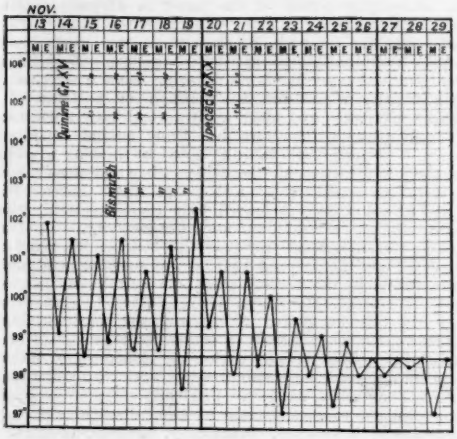
BY HUGH S. STANNUS, M.B. LOND.,
MEDICAL OFFICER, NYASALAND.

IN a paper read before the Royal Medical and Chirurgical Society, and published in the *Practitioner* for June, 1907, entitled "The Early Diagnosis and Cure of the Pre-suppurative Stage of Amœbic Hepatitis," Major Leonard Rogers, I.M.S., described a series of cases in India presenting symptoms which he has shown are associated with the hepatitis of amœbic dysentery before abscess formation and which are capable of cure by ipecacuanha. It is with the idea of drawing the attention of those practising in Africa to the fact that this class of case may be met with in this continent that I give a short account of a case occurring in Nyasaland.

A man, single, aged 30 years, was admitted to hospital on Nov. 13th, 1907, with a temperature of 101·8° F. and a pulse-rate of 80. He was depressed, weak, and unable to walk. He gave a history of two weeks' fever, headache, malaise, with some looseness of the bowels. He had taken 20 grains of quinine per diem during the first

ten days of his illness; afterwards Dover's powders and a diet of goat's milk. He had had no nausea, vomiting, cough, or symptoms referable to the chest or abdomen; the stools, two or three per diem, had been "porridgy"; there was no blood, mucus, or pain with movements of the bowels. His previous history elicited an eight months' residence in this country during which he had had many attacks of "fever"; one attack had been thought to be tick fever; in the last attack, however, malarial parasites had been found. Previous to coming to this country he had been in South Africa for nine or ten years, and in 1901 had been treated in Bloemfontein Hospital for enteric fever, followed one week after discharge by dysentery with typical acute symptoms, the attack lasting four weeks. Since then, till the present illness, he had had no returns of symptoms or diarrhœa.

On the evening of admission the blood was examined for malarial parasites and two only were seen, ring forms (malignant tertian), no crescents. The following five days quinine was given: 15 grains the first two days and then 20 grains as solution of bi-hydrochlorate. This had no effect on the temperature, which showed an evening rise, averaging 101°, and the pulse was from 66 to 88 per minute. The



The complete chart also recorded a pulse frequency varying from 66 to 90, generally keeping between 80 and 88. The record of the evacuations showed "2 loose" on the second day, "3 loose" on the third day, then "2 loose" with one intermission until the twelfth day, after which "1 formed" is recorded daily with two intermissions. The diet is also described. "Nov. 13th: Milk, soda, chicken broth. Nov. 26th: Milk pudding, bread and butter. Nov. 28th: Eggs, toast, fish, potato. Dec. 1st: Chicken, duck."

urine was normal. There were two motions per diem, watery, with little fæcal matter, but neither mucus nor blood except on the second day after admission when what appeared to be a small old blod clot was passed. No improvement was effected by 20-grain doses of bismuth three times a day for three days. Microscopical examination of the stools proved negative as regards amœbæ. The tongue was thickly furred and the patient complained of weakness, headache, and profuse sweats in the evening. The spleen could just be felt; the liver showed no enlargement to percussion or tenderness to palpation; there were no other physical signs in the chest or abdomen. At the end of the week, during which time no other malarial parasites had been found, quinine was discontinued and it was determined to try ipecacuanha. It was given in wafer, in 20-grain doses, on two consecutive days on an empty stomach, 20 minutes after a 20-minim dose of tincture of opium, as recommended by Manson. The result was immediate: the temperature commenced to fall, reaching normal in four days, and thereafter not rising again; the stools became more and more formed, being normal in three days; the tongue cleaned, and the patient expressed himself as feeling much better. The convalescence was uneventful, full diet being attained by the end of a week of normal temperature.

Major Rogers lays stress on a particular type of leucocytosis as being of value in making a diagnosis in these cases. Unfortunately, I was unable to make a "white count" till after the treatment had done its work—white cells then numbered 9000 per cubic millimetre. I think, however, that with the past history of dysentery the three weeks' pyrexia, immediately reacting to treatment by ipecacuanha, places this case among those that Major Rogers puts in Class IV. of his series, "Cases without Dysentery or Liver Symptoms treated with Ipecacuanha."

Blantyre, Nyasaland.

A NOTE ON THE EXTRACTION OF FOREIGN BODIES FROM THE TISSUES.

BY HUBERT CHITTY, M.S. LOND., F.R.C.S. ENG.,
RESIDENT CASUALTY HOUSE SURGEON, ST. MARY'S HOSPITAL, PADDINGTON.

THE following description applies only to the removal of those bodies which are opaque to the x rays. The patient is taken into the x ray room and the foreign body is roughly localised with the aid of a fluorescent screen. The area in which an incision will have to be made is then carefully cleansed and is infiltrated with a 1 per cent. solution of eucaine. A further examination of the part is now made with the x rays. Guided by the shadows thrown upon the screen, the surgeon plunges the needle of the infiltrating syringe into the tissues till it touches and (in the case of a needle) lies as nearly as possible parallel to the foreign body. A few more drops of solution may now be injected and the syringe is then detached from its needle, which is left sticking into the part. This needle is cut down upon and the incision necessarily exposes the foreign body at the same time.

Except where the foreign body lies very deeply it is often quicker to surround both it and the localising needle by an elliptical incision and to remove them both, together with a little skin and subjacent tissue, in one mass. The wound when closed by a stitch or two leaves no more scarring than does a linear incision.

I have chiefly used this method in cases of "needle in the hand," but it is, of course, equally applicable to the removal of glass, shot, &c. It is rapid and certain, and the minimum of damage is inflicted on the soft parts. Strict asepsis is easily maintained, for, once the infiltrating needle has been brought into contact with the foreign body, no further screening of the part is required.

This plan for localising a foreign body is simpler and more accurate than any method of skin marking with which I am acquainted. Anyone who has had to hunt for small pieces of needle deeply imbedded in the muscles will appreciate its advantages.

St. Mary's Hospital, Paddington.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

The Tone of Cardiac Muscle.

A MEETING of this section was held on June 23rd, Dr. D. B. LEES being in the chair.

Dr. A. M. GOSSAGE read a paper on the Tone of Cardiac Muscle. He said that muscle was probably capable of two kinds of contraction—the ordinary twitch and "tone," and these might occur separately or in combination. Tone was never absent, so that the ordinary muscular contraction was superimposed on tone, but increase of tone diminished the size of that contraction; in other words, tone diminished contractility. Tone, unlike the ordinary muscle twitch, had no refractory period and was directly dependent on the strength of the stimulus. Tetanus was purely a phenomenon of tone. In cardiac muscle Porter had shown that tone diminished conductivity as well as contractility and it was probable that it also diminished excitability. Dilatation of the heart was due to loss of muscular tone and, as would be expected, was associated with increase of excitability, conductivity, and contractility.

Indeed, the tone of cardiac muscle might be regarded as a method of storing up a reserve of force which was liberated on dilatation of the heart. The action of the cardiac tonics was mainly to cause an increase of muscular tone. In considering human hearts it was found that the phenomena of dilatation of the heart conformed with the theory as to the influence of tone. In the dilated heart the diastolic relaxation was obviously greater than in the normal heart, or, in other words, tone was diminished. In association with that they found excitability increased, as shown by the increased rate and the frequency with which extra systoles occurred. Conductivity was probably also increased, since they found no lengthening of the interval between the time of contraction of the auricles and that of the ventricles, although the heart was beating more rapidly. Experiments on animals showed that the recovery of conductivity was a gradual process requiring a certain amount of time and it was probable that the same was true of human beings, especially as a very considerable time was required for the recovery of conductivity in cases where it was depressed. In the dilated heart contractility was also increased, since the heart had to perform more work to maintain the circulation, and in the majority of cases the circulation was in a fashion maintained. The intense labour performed by the heart, even when ineffectual, was a common clinical experience in cases of dilatation. This excessive expenditure of energy was always liable to be followed by exhaustion and then the heart would fail in its task of keeping the circulation up to a sufficient standard. Since the dilated, toneless heart had to work too hard and was always in danger of failing, their object in treatment must obviously be to restore some of the lost tone. It was, of course, possible that that could be done by mechanical means; with diminished work there might be diminished pressure within the cardiac chambers and that might help in the restoration of tone. At any rate, the beneficial effects of rest and bleeding in cases of dilatation of the heart had long been recognised. Mechanical measures were, however, often insufficient and had to be supplemented by the use of drugs. Unfortunately, the action of drugs was seldom a simple affair and the results of experiments on animals were not always borne out in the clinical treatment of patients. The drugs employed in the treatment of dilatation and heart failure belonged mainly to the digitalis group and it was of great importance to understand their exact mode of action. Digitalis and strophanthus had in animal experiments a very similar action, except that digitalis constricted the vessels while strophanthus did not, and thus digitalis had the greater effect of the two in raising the blood pressure. Among other vessels, however, it also constricted the coronary arteries, and the flow of blood through the coronaries was of immense importance to the heart, increase of flow leading to increased size of the contraction and *vice versâ*. Even increased tension in the coronaries with an indifferent fluid, such as oil, might cause a quiescent heart to start beating again. Cushny pointed out that digitalis had two opposing actions on the heart—(1) as a stimulus and (2) as a bridle—and that it was difficult to predict which result would follow its exhibition in a particular case. It seemed possible that a very large part of the action of digitalis might be explained by regarding it as a powerful stimulus to the heart, very similar to the interrupted electric current in Porter's experiments. It would stimulate the vagus, the muscle directly, and tone. In the hearts of animals the first effect of digitalis was usually to increase the size of the individual contractions, and at that stage the diastolic relaxation was often more marked, or, in other words, there was some diminution of tone. Together with those phenomena the rate of the heart was sometimes increased. Later there was a decided and gradual increase of tone, usually a diminution of rate and gradual decrease in size of the contraction. Still later the rate increased again with a further increase in tone; then delirium cordis might supervene and the heart finally stopped in a condition of excessive tone. The resemblance of all that to the phenomena accompanying gradually increasing tone in Porter's researches on the auricle of the tortoise was very striking, the main difference being that with digitalis the whole process to the stoppage of the heart in excessive tone or tetanus took much longer. Closer investigation had shown that excitability to direct stimulation was decreased in digitalis poisoning, while conductivity was also diminished even sometimes to the extent of causing a block between auricle and ventricle. Since Porter had demonstrated that increase of tone was sufficient to produce decrease of contractility (as shown by the diminished size of the beats) and decrease of conductivity, the action of digitalis in lessening those two properties must be partly due to its effect in augmenting the muscle tone and might be entirely due to the alteration of tone. The diminution of excitability was probably also partly due to the same cause, an increase of tone. Loss of tone was certainly associated with increased excitability so that it was probable that increase of tone would lead to decrease of excitability. The increased rate which appeared later in digitalis poisoning was probably due to direct stimulation of the muscle by the digitalis, while the terminal delirium cordis would have the same causation as the similar phenomenon noted by Porter with increased tone, the ventricle not contracting as a whole, but isolated portions of the wall contracting separately owing to decrease of conductivity. Indeed, Sowton noticed that samples of digitalis that caused marked delirium cordis usually also brought about a striking decrease of conductivity as shown by the number of the auricular beats that were not conducted to the ventricle. In that connexion it was interesting to note that Muskens had offered a similar explanation for the occurrence of alternating action of the heart in digitalis poisoning. That action where the beats were alternately large and small, although the intervals between them were approximately equal, had usually been attributed to failure of contractility but Muskens regarded it as resulting from a depression of conductivity which led to isolation of portions of the ventricular wall, and after every normal beat a contraction of only part of the ventricle. From animal experiments, then, it seemed that digitalis acted at first as a stimulus to the heart, increasing the contractility and often the rate, possibly also conductivity and excitability. Later it stimulated tone and with increased tone there was diminution of contractility, excitability, and conductivity. In human beings the amount of the drug that reached the heart must be small and the amount that it was possible to administer was limited by the irritant effect of digitalis on the gastro-intestinal tract. It was to be remembered, however, that the drug was cumulative in its action so that a considerable effect might be produced by small doses continued over a long time. The irritant action on stomach and intestine was not observed with strophanthus and that possibly constituted one of its dangers. The early stage of stimulation was difficult to demonstrate in clinical work, although it might be of importance. Practically, however, as Mackenzie had recently pointed out, it was only in cases of dilatation that marked results were obtained, or in other words that digitalis acted therapeutically mainly on the function of tonicity. Improvement often occurred quite suddenly although the drug might have to be administered for several days before any effect was produced. Very rapidly there might be a sensible decrease in the dilatation, the œdema might diminish, the liver shrink in size and there might be a decided rise in the blood pressure and in the amount of urine secreted. Coincident with the decrease in the dilatation the rhythm became less frequent and any irregularity was lessened. The decrease in frequency and irregularity was, no doubt, partly due to diminution of the excitability, though direct stimulation of the vagus might be the cause of a decreased rate of stimulus production and so a less frequent rhythm. Mackenzie had shown that a normal heart, or a diseased heart which was not at the same time dilated, was practically unaffected by such doses of digitalis as could be given to men by the mouth. That was perhaps only what should be expected since it was probable that a smaller dose would be required to increase the tone of a dilated heart (i.e., where tone was much diminished) than to add to the tone of a heart where it was already at the normal standard. The excitability of tone varied with different circumstances in animals and no doubt had the same variability in human beings. It was in cases of recent dilatation, or recent increase of dilatation when the muscle was healthy that the tone of the human heart seemed especially susceptible to the influence of digitalis. Experimentally tone diminished contractility and conductivity and not improbably excitability also, so that they would expect digitalis when it increased tone in men to decrease those other properties. Its effect on excitability was apparent; the diminution of rate and of irregularity showed its restraining influence. There were, however, instances where a heart which was originally regular

became irregular under the administration of digitalis. That irregularity was of several kinds, of which the commonest form was the development of a "bigeminal action" where an extra-systole followed each normal beat. A bigeminal action was not uncommon in over-excitable hearts where no drug had been employed, and a probable explanation of its occurrence after digitalis was that the decreased rate had allowed a hidden bigeminal action to appear. For that explanation to be applicable it was necessary that the interval before the extra-systole should be longer than the intervals between adjacent beats before the administration of digitalis. Hering showed that a bigeminal action might be made to disappear by giving atropine, its disappearance coinciding with the time when the normal rhythm became so rapid that a normal beat occurred exactly at the moment when the extra-systole would be expected: any rate faster than that was regular, while any slower rate, as shown when the effect of the atropine wore off, was of the bigeminal character. A bigeminal action was not necessarily constant and they would not always expect a constant bigeminal action in cases occurring after digitalis. It was not necessary, therefore, to assume that in these cases the digitalis caused an increase of excitability contrary to its usual action of decreasing excitability. A second type of irregularity after digitalis might be produced by the occurrence of isolated extra-systoles. That might, of course, be merely a consequence of reduction of rate, since with a rapid rhythm there was very little opportunity for the occurrence of extra-systoles. Another type of irregularity after digitalis had to do with the depression of quite a different property of the muscle—namely, conductivity. There was abundance of evidence that digitalis depressed conductivity in animals and Mackenzie had shown that the same action took place in human beings provided that conductivity was somewhat depressed before the drug was given. In some cases there might be an apparent improvement in conductivity after digitalis owing to the slower rate giving more time for its recovery. In view of the small doses that it was possible to administer it is not surprising that depression of conductivity by digitalis was only observed clinically in cases where there was already evidence of its being damaged. The effect of digitalis on contractility was more difficult to estimate. There was no doubt of the more efficient working of the heart when digitalis had been given in suitable cases. That was partly due to the mechanical advantage of the decreased dilatation brought about by increased tone and partly due to the fact that the slower rate allows a longer time for the contractility to recover. In animal experiments, however, it was clear that both an increase of tone and the administration of digitalis resulted in a diminution of contractility. That drug, too, often produced an alternating action of the heart which had been supposed to be the expression of damaged contractility. The evidence of depression of contractility by digitalis in the human heart seemed sufficiently clear and they could have no doubt of that action of digitalis from the results of animal experiments. Probably only those patients whose contractility was already depressed would show any further recognisable lowering with digitalis. The foregoing arguments afforded sufficient justification for affirming that tone played the same important rôle in the human heart as in the animal and that increase of tone had the effect of diminishing the other properties of the cardiac muscle—namely, contractility, excitability, and conductivity. That conclusion, too, was of considerable clinical importance. The recognition of loss of tone as the important factor in dilatation of the heart was a great advance, and they now found in addition that many of the phenomena associated with dilatation were directly due to that loss of tone. The dependence of the other properties on tone afforded a remarkable method of self-regulation in the heart, so that it was enabled to do just the amount of work which was required of it. Some light was also thrown on the obscure subject of the action of digitalis on the heart, though it could not be said that that question was completely answered. Part of the action of digitalis was evidently secondary to its influence on the muscle tone, but how much of the damage done to contractility, conductivity, and excitability came from increased tone and how much from stimulation of the vagus could not at present be estimated. The narrowing of the coronary vessels would probably also tend to depress the properties of the cardiac muscle to an extent that was incapable of exact appreciation. It was important to note that in the case cited the digitalis had greatly improved the patient's general condition as well as the general working of the circulation in spite of the grave depression of conductivity and the occasional dropping out of ventricular beats. Mackenzie's and Gibson's patients had also benefited from the drug, although contractility was so damaged that there was alternating action of the heart. Evidently the improvement resulted from the increase of tone and these facts received their simplest explanation in the conception of tone that he (Dr. Gossage) had advanced.

Dr. J. MACKENZIE said that the paper had helped him to understand why there was an increase in the rate of the heart's beat in cases where sudden dilatation had taken place.

Professor A. R. CUSHNY said that it was interesting to find Dr. Gossage going back to the view that the action of digitalis on the heart may be due to what was called its elasticity, which was very much the same thing as the tonicity described by Dr. Gossage.

Dr. A. MORISON said that in the discussion of the subject they could not eliminate the influence of the nervous system or that of the blood.

Dr. H. A. CALEY said that the value of the paper by Dr. Gossage consisted in the evidence which it contained that digitalis was indicated in cases of cardiac myasthenia with dilatation, and if digitalis failed to do good in such circumstances causes such as degeneration of the coronary arteries or actual degenerative changes in the myocardium itself must be considered.

Dr. LEES laid stress upon the importance of ascertaining the true size of the heart in cardiac conditions which he said could quite easily be done by careful percussion. The use of digitalis was not indicated in cases of dilated heart due to an acute toxic condition, but where the condition was chronic then digitalis was useful.

Dr. GOSSAGE replied and the meeting terminated.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

African Tick Fever.

A MEETING of this society was held on June 19th, Sir PATRICK MANSON, the President, being in the chair.

Dr. C. F. HARFORD read a paper on African Tick Fever with special reference to its clinical manifestation and its relation to relapsing fever of India and other parts of the world. He said that the question must be raised as to how far tick fever had existed, for instance, in such a territory as Uganda for many years past, and whether the increase was as rapid as it seemed, or whether the increase was chiefly apparent and was really due to the fact that it was not recognised before. One point was quite clear and that was that the systematic examination of the blood, which was now being carried out by many medical men in Africa, made it possible to diagnose many diseases with certainty in a way which was not possible before. The society had considered on various occasions the special characters of spirochæta Duttoni which was generally acknowledged to be the cause of African tick fever, and he would only venture to express his opinion that the organism belonged to the protozoa, and that whilst there, no doubt, were slight morphological differences between that parasite and the one usually known as spirochæta Obermeieri, yet those did not appear to be greater than, if as great as, the differences between various forms of malarial parasites. He took it as proved that the form of fever, which for the sake of convenience he referred to as tick fever, was conveyed by the tick ornithodorus moubata. He then considered the series of notes of 66 cases which had been most kindly supplied to him by Dr. A. R. Cook and Dr. J. H. Cook of the Church Missionary Society, Uganda. Of the 66 cases 39 were males and 27 females; and again, out of the total number 46 were adults and 20 were children. Of the total number 57 were cured and nine were fatal. Blood examination was recorded in 57 out of the 66 cases and spirochætæ were found in all of these except one. In one of the cases only one spirochæta was found after a prolonged search, but in others they appeared to have been fairly plentiful. In some cases where spirochætæ

were said to be scanty it was clear that the case was one of a relapse and not of the primary paroxysm, and in some cases it was a case of a second attack of the disease. In the three cases which died within a few hours of admission it was noted in one case that the spirochætæ were "teeming," and in another "intense infection, three to four in a field." In a third they were "abundant." In others which died either on the first or second day after admission it was only noted that spirochætæ were found. As might be expected, a large number of the cases showed only single paroxysms. That was partly to be accounted for by the fact that the patients recovered after the first sufficiently to leave the hospital and did not come back a second time. In many cases, however, it was believed that the cases were second attacks which always seemed to be greatly modified. There was a great variation in the times intervening between the relapses, though it might be taken as a general rule that the first relapse came on after an interval of about seven or eight days, the later ones being more irregular in their time of occurrence. Dr. J. H. Cook noted that the number of relapses was variable, on an average perhaps four or five, but he had known as many as nine or ten sometimes. He stated that sometimes without pyrexia in the later relapses there occurred at the expected time when the relapse was due malaise, headache, or gastric upset. He said the usual interval was eight days and that corresponded with the usual period of incubation. In other cases it was even longer, but not often shorter except in cases of double infections. As regards the height of temperature, four cases reached 106° F. or above, 13 cases reached 105°-105·9°, 17 cases reached 104°-104·9°, and 13 cases reached 103°-103·9°. As regards other symptoms, rigor occurred in 21 cases. In 24 cases there was no rigor, whilst in the remaining cases the question of rigor was not referred to. It was noted that the spleen was enlarged in 35 cases and that there was no enlargement in 20 cases, and though it was probable that most of the patients had been liable to malaria, yet it seemed justifiable to regard enlargement of the spleen as a common symptom of the disease. Vomiting was noted as a prominent symptom in 30 cases and diarrhœa in nine cases, delirium being only referred to in six cases. From these figures it appeared that beyond the usual symptoms of fever there was often some gastro-intestinal disturbance but there were no other symptoms which could be regarded as pathognomonic of the disease. Miscarriage appeared almost always to take place in cases of pregnancy and two cases appeared among the cases given. Iritis was a frequent complication. It was usually plastic and very painful and lasted about five weeks, and the risk of adhesions was great. The tendency was to get absolutely well with careful treatment. There were three or four cases of serious irido-cyclitis from tick fever. The prognosis here, too, was hopeful and recovery of sight also perfect. Facial paralysis was a serious complication which he had noted in three cases. The prognosis was hopeful and duration as a rule was from six to eight weeks. But perhaps the most interesting of Dr. J. H. Cook's notes was his reference to the possible connexion between tick fever and blackwater fever. He had noted that in two cases. In the latter case no spirochætæ were found, though the case seemed to be one of tick fever. In neither of those cases was there at the time any sign of malarial infection. Dr. Cook raised the question whether it was possible that there might be any special relation between tick fever and blackwater fever such as was usually traced between blackwater fever and malaria. On the other hand, Dr. Cook alluded to the suggestion made by Dr. L. W. Sambon that blackwater fever might be conveyed by the bite of ticks, and he suggested that possibly the same tick communicated parasites both of tick fever and of blackwater fever, if the latter fever could be said to be due to a distinct organism. He (Dr. Harford) was inclined to think that there might be many causes for the occurrence of blackwater fever. Malignant malarial infection seemed to be the primary cause, whilst many other circumstances, such as chill, the taking of an unusual dose of quinine in those especially susceptible to its action, might be accelerating causes, and it was possible that a paroxysm of tick fever might be the determining cause in those cases. Dr. J. H. Cook did not believe that immunity existed either naturally or acquired by attacks. He knew many people who had had two distinct attacks, though he remarked that second attacks were usually less severe and with fewer relapses than in the case of primary attacks. He (Dr. Harford) had hoped to have been able to institute a comparison between the relapsing fever of Africa and that of India and other parts of the world, but the amount of material which Dr. Cook had supplied to him had required so much arrangement that it had left little time to deal with other parts of the world. The charts which had been published by the Liverpool School of Tropical Medicine corresponded very closely with those furnished from Uganda and clearly described the same disease. He had no doubt himself that tick fever was practically identical with the relapsing fever of other parts. Differences there might be in the clinical features of the disease, as in the morphological characters of the parasite, but he hoped that they would dismiss the titles of tick fever or spirillum fever and call it relapsing fever.

Dr. L. W. SAMBON discussed the paper from an epidemiological point of view and put forward his views on the parasitology of the disease.

Dr. F. M. SANDWITH, speaking from his experience of relapsing fever in Egypt, remarked that in the African cases mentioned in the paper jaundice was only present in one case, whereas elsewhere jaundice was regarded as one of the important symptoms.

Dr. A. W. G. BAGSHAWE (Uganda) observed that slight jaundice was a fairly common symptom in tick fever.

Dr. A. CASTELLANI (Ceylon) said that he had used atoxyl and quinine cacodylate in the treatment of six cases.

Dr. G. C. LOW considered that the cases described in the paper as double infection were not due to the same parasite.

Mr. C. J. BAKER (Uganda) described the pulmonary symptoms which he had noticed in the disease and narrated how patients suffered from dyspnœa and had all the appearances of being affected with pneumonia.

Dr. L. HILL mentioned that relapsing fever was prevalent in Ireland for a short time and then disappeared entirely.

The PRESIDENT asked whether anything had been done in the way of introducing serum treatment for relapsing fever. By means of experiments on animals it had been found possible to abort and to prevent relapsing fever in animals.

After Dr. HARFORD had replied the meeting terminated.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Congenital Vaginal Cyst.—Rupture of Uterus.—Treatment of Puerperal Septicæmia.

A MEETING of this society was held at Liverpool on June 19th, Dr. A. J. WALLACE (Liverpool) being in the chair.

Dr. W. BLAIR BELL (Liverpool) related a case of Large Congenital Cyst of the Vagina occurring in a married woman, aged 21 years, who had been delivered without difficulty of a full-term child. The cyst was of the size of a cocoanut and lay between the uterus, bladder, and anterior vaginal wall. It was removed with some difficulty on account of its deep connexions.

Dr. W. E. FOTHERGILL (Manchester) communicated two cases of Abdominal Hysterectomy for Complete Rupture of the Uterus. The first case was that of a woman, aged 32 years, who was admitted to St. Mary's Hospital with a ruptured uterus produced during the performance of podalic version. She was very collapsed from hæmorrhage and on careful vaginal examination under anæsthesia a deep tear of the cervix extending high up on the right side was discovered. It was too inaccessible to be dealt with per vaginam and abdominal section showed the laceration to extend as high as the origin of the right Fallopian tube, involving the peritoneum. There was a considerable amount of blood in the abdomen. The entire uterus was removed and the patient made a good recovery. The second case occurred in a woman, aged 30 years, multipara, who was admitted to hospital after unsuccessful attempts had been made to deliver a brow presentation. The head of the child was found to be in utero, the trunk and limbs in the abdomen. Podalic version was first performed and the child was delivered with considerable

difficulty, followed by the manual detachment of the placenta. An hour later abdominal hysterectomy was carried out. The lower uterine segment was very much bruised and a complete tear ran transversely, involving the right posterior aspect of the uterus. The patient made a satisfactory recovery.

Dr. A. KNYVETT GORDON (Monsall) read a paper on Some Problems suggested by a Series of cases of Puerperal Sepsis of Advanced Type. He confined his remarks to the curative treatment of severe cases only, based on an investigation of 250 cases treated in the Monsall Fever Hospital. He first of all dealt with the type of case where the patient is desperately ill, where the extent of septic absorption is great, either of toxins or organisms, and where the only obvious local signs are sub-involution and endometritis, with some abdominal distension. Half of these patients had streptococci in the circulating blood. Dr. Gordon drew attention to the two opposed schools of treatment: in the case of one reliance was placed solely in vaginal and uterine douching, avoiding anything of the nature of active interference with the interior of the uterus. He thought that it was very necessary to consider this opinion seriously, founded as it was on the teaching of Metchnikoff, that between the organism and the system was a wall of leucocytic infiltration the integrity of which must not be disturbed. The opposite school regarded the infected uterus just as a wound in any other situation, and would treat it accordingly—viz., by active disinfection. He maintained that in puerperal sepsis of the type which he had defined the granulation wall was useless, or as Sir William J. Sinclair had happily put it, had been scaled or breached. When he first began to treat these cases by douching alone, the mortality was 46 per cent. Since the employment of more active measures the mortality had fallen to 24 per cent., where it had remained for three years. It was his practice to scrape thoroughly the interior of the uterus with a large sharp curette, followed by the application of undiluted izal solution on swabs. In regard to pelvic cellulitis resulting from deep, infected tears of the cervix he suggested that incision of the inflamed area and drainage per vaginam should be adopted. He had never performed hysterectomy in the early stage of puerperal sepsis and only five times as a last resort, all unsuccessfully. His experience, therefore, of this procedure was too limited, but he failed to see how such a practice could be adopted successfully without removing a large number of uteri unnecessarily. A very important administrative problem was also considered. Where ought these cases to be treated? He thought that they should go to a fever hospital administered by a resident superintendent and that a gynæcologist who is not too busy to attend regularly should be attached to the staff. Care should be taken to select and to train the nurses, a certificate only being awarded after at least two years' satisfactory work in the wards, coupled with attendance at systematic and clinical lectures, the theoretical knowledge being also tested by examination.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on June 19th, Dr. W. J. Tyson (Folkestone), the President, being in the chair.—Eight candidates were elected, making a total roll of more than 400. After an address from Dr. James F. Goodhart the President said that he wished the profession generally would more thoroughly understand the work that the society was doing for the promotion and extension of the knowledge of all health resorts, English and foreign. The efficient study of health resorts, from a balneological and climatological standpoint, required much time and experience. The study took in the whole range of medicine, and it required well-trained and thoughtful physicians to put into practice all the advantages that were possible in our well-equipped spas and marine towns. The advising of the choice of a health resort should be in the hands of those who know intelligently the various qualities and adaptabilities of the many spas. To send patients away, often to a distance or abroad, without very carefully considering all the conditions of the patient and the place recommended seemed to be unscientific treatment; and yet this method was not infrequently followed. The society was ever willing to communicate its special knowledge to those who required it and, he trusted, would in the future be looked upon more and more in the light of a consultant in its own special department.—Dr. Leonard Williams remarked that it was no idle boast to say that before the inception of this society the study of balneology and climatology did not exist in this country. The society had endeavoured and had succeeded in lifting these therapeutic measures out of the mire of empiricism in which they had too long wallowed into the domain of rational, straightforward, scientific branches of professional work. The papers which had been read before the Fellows and the articles which had appeared in the *Journal of Balneology and Climatology* during the 12 years of existence of the society were real contributions to the elucidation of the many problems which surrounded the therapeutics of baths and climates. These therapeutic measures were destined in the future to play a very large part in the treatment of chronic disease and they had deserved well of their professional brethren in placing at their disposal the results of the work which was being done in these matters.—Mr. Ernest Solly (Harrogate) was elected President of the society for the coming year, with Dr. Septimus P. Sunderland and Dr. F. A. de T. Mouillot as secretaries.—Sir Thomas Barlow and Mr. George Eastes were entertained at the annual dinner of the society.

Reviews and Notices of Books.

School Hygiene. By ROBERT A. LYSTER, M.B., Ch.B. Birm., B.Sc. Lond., D.P.H., B.Sc. Public Health. London: W. B. Clive. 1908. Pp. 360. Price 3*s.* 6*d.*

ONE of the most important movements of recent times from a national point of view is that which has had for its object the application of sound principles to secure improvements in the nurture and education of children. Statesmen, medical practitioners, and educationists have combined to work for this object and many much-needed reforms have resulted. The subject of school hygiene is obviously one in which it is essential that the teachers should be thoroughly grounded in order that they may be enabled to adapt their instruction to the capacities and needs of the children and also be able to give elementary instruction in personal hygiene. The subject is, moreover, one which demands at any rate an elementary knowledge of many physiological and medical problems as well as of sanitation and the general laws of health. A text-book intended for teachers must therefore afford this information in language stripped as far as possible of abstruse technicalities and in simple explanatory style. Dr. Lyster's book is calculated to supply the necessary information. It is clearly written, takes nothing for granted, and yet is never diffuse or irrelevant. It is well illustrated by many figures, diagrams, and reproductions of photographs. It is obviously the outcome of a practical knowledge of the subject and of experience in lecturing to teachers.

The book is divided into three parts. The first of these is devoted to the school building and deals with the questions of site, construction and arrangement of the building, lighting, heating, and ventilation. The sanitary arrangements advisable and necessary for schools are considered in detail and the various methods of effecting them are discussed. The second part deals with physical training and the laws of health. The various forms of school fittings are described. Different varieties of desks are figured and criticised. The bad effects of many of the ordinary forms are clearly pointed out. It is admitted that the problem of a universally satisfactory desk has not yet been solved but that certain of those now in use, especially those which are adjustable, are useful and not likely to cause any harmful results if the scholars are not kept seated for long periods at a time. Postures in regard to school work are considered, especially as to reading,

writing, standing, and receiving instruction. A useful section is devoted to breathing exercises and their importance receives full recognition. The eyes, ears, throat, and nose are considered in connexion with school work and the prevention of injuries to the eyes at school is considered. In a chapter on personal hygiene the clothing and feeding of children are discussed and the amount of sleep advisable at different ages is set forth. Personal cleanliness and the care of the hair and of the teeth are also discussed, and useful recommendations are given. The third part of the book is devoted to medical supervision and school medicine and surgery. Some useful general information is supplied in regard to the mentally defective children and to common ailments and diseases. Epidemic diseases come in for special description, and the closing of schools as a result of outbreaks of such diseases is discussed, together with the measures necessary for disinfection.

Dr. Lyster's book affords a great deal of information within very convenient compass and should be a useful small manual for teachers and for others interested in school hygiene.

The Borderland of Epilepsy. By Sir WILLIAM GOWERS, M.D. Lond., F.R.S. London: J. and A. Churchill. 1907. Pp. 118. Price 4*s.* 6*d.* net.

FOR the most part the substance of this work has appeared, reported as lectures, in the medical journals.

The first chapter opens with a discussion on the mechanism of unconsciousness. In certain cases there may be a diminution of the due supply of nutrition to the brain, in others a diminution of intracranial pressure, or again a discontinuity of conduction at the junction of the neurons. Cases are related which suggest the possibility of some sort of connexion between syncope and epilepsy and which present strong evidence of repeated cardiac syncope disposing to epilepsy. Diagnosis between syncope and minor epilepsy is sometimes difficult, but sudden, intense, and brief sleepiness with dusky complexion is not met with in syncope and is significant of epilepsy. Cardiac aurae in epilepsy are particularly perplexing and may easily mislead the physician. In syncope the more distinctive symptoms consist in the gradually on-coming of pallor and faintness with failure of sight and gradually approaching unconsciousness. No rigidity occurs and recovery is with a slowly lessening sense of faintness and without mental confusion.

The second chapter is devoted to a description of "vagal attacks," this being a useful designation for prolonged seizures the symptoms of which consist chiefly in disturbance of some of the functions of the pneumogastric nerve. On the sensory side there are feelings of gastric, respiratory, and cardiac discomfort. There are also slight mental change, coldness of the extremities, with, perhaps, some sensory impairment and often slight tetanoid spasm. The author suggests that such attacks may be minor epileptic seizures extended in time. In these states attention to the general health is of the utmost importance. Bromides seem to exert little direct influence. Where vaso-motor spasm forms part of the attack nitro-glycerine is of service. Chapters III. and IV. contain an account of aural vertigo and of its differentiation from minor epilepsy, together with the histories of a few patients which suggest that the relationship of the two diseases may sometimes be closer than a mere coincidence. The process in vertigo may provisionally be conceived "as an upward 'discharge' from the lower centres, acting on the cerebral cortex and inducing in it motor and sensory activity by which consciousness arises of the features of the attack." Chapter V. deals with the relations of migraine and epilepsy. There are an undoubted alternation and co-existence of these maladies, similarities in their premonitory disturbances, and there exist instances in which migraine has appeared to develop into epilepsy, yet the differences are definite and distinctive. The warning of the epileptic fit occurs immediately before the seizure; that of migraine lasts for from 10 to 30 minutes and has very special characteristic features. Clonic spasm is unknown in migraine, while its pain is distinctive. In Chapter VI. there is an account of some sleep symptoms, such as night terrors, somnambulism, and narcolepsy.

This small work is of the utmost interest and is written in the well-known fascinating style of the author. We venture to express a hope that it may be the prelude to a larger work on the same subject.

Cancer; Relief of Pain and Possible Cure. By SKENE KEITH, M.B. Edin., F.R.C.S. Edin.; and GEORGE E. KEITH, M.B., C.M. Edin. London: Adam and Charles Black. 1908. Pp. 155. Price 2*s.* 6*d.* net.

IN reading this work we have been struck with the very candid attitude of the authors. They tell us all that they know about the method of treatment which they have employed, and they give details of a large number of cases which they have treated, and in no way do they claim that they have discovered a cure for cancer; they merely say that they have found that the use of the injections which they employ has been followed in nearly all cases by marked improvement in the amount of pain, by diminution, and in a few, a very few cases, by disappearance, of the growth. The injections employed consisted of iodipin, arseniate of iron, cacodylate of iron, and cinnamate of sodium. It may well be worth while to try such methods as this in cases unsuitable for operation or where the patients decline to submit to operative measures. The attitude adopted by many that if operation is impossible nothing can be done, appears to us to be unwise. It is no doubt due to the hasty and extravagant claims put forward by many. The authors of this book endeavour to state only facts, and the introduction on the difficulties of treating cancer is very judicious. It is interesting to note that trypsin was extensively employed by the authors for a year and they came to the conclusion that it was not only useless but also dangerous.

Les Pseudo-Bacilles Acido-Résistants. Critique des Méthodes de Coloration du Bacille Tuberculeux. Revision du Groupe des Bacilles dits Acido-Résistants. Par le Dr. ANDRÉ PHILIBERT, Interne Lauréat des Hôpitaux de Paris (Médaille d'Or Médecine, 1907), &c. Paris: G. Steinheil. 1908. Pp. 143. Price fr. 4.

THE differentiation of the various micro-organisms which belong to the rapidly increasing class of acid-fast bacilli is a matter of considerable importance whether it be regarded from the point of view of the clinician or from that of the medical officer of health. This work from the bacteriological laboratory of the Faculty of Medicine of Paris by Dr. Philibert is therefore of interest. In the past there has been some laxity in the use of the term "acid-fast"; sometimes this expression has been held to embrace the further quality of resistance to decolourisation by absolute alcohol and sometimes it was considered apart from this latter quality. By rigidly defining the method of staining and measuring the amount of resistance to decolourisation by acids and alcohol it is possible to arrive at results of clinical value and to avoid many of the pitfalls which have arisen in great part from the use of methods which have been largely modified from those originally proposed by Koch and Ehrlich for the demonstration of the tubercle bacillus. The bacillus tuberculosis if stained with hot carbol-fuchsin for ten minutes will withstand decolourisation by nitric acid (1 to 3) for two minutes, followed by the action of absolute alcohol for from three to five minutes, and does not become tinged with a

simple counterstain. This method may, according to Dr. Philibert, be trusted to distinguish between the bacillus tuberculosis and the large number of morphologically similar, but not so resistant, organisms which have been found in the smegma, urine, serous effusions, blood, sputum, sebaceous material, cerumen, pus, and occasionally in the organs of the corpse. These less resistant organisms the author groups as accidentally acid-fast in contradistinction to the tubercle bacillus which he considers to be hereditarily acid-fast. To the clinician these results are satisfactory. Unfortunately, the hereditarily acid-fast group includes the bacillus lepræ and the bacilli found in butter, fodder grass, dung, and so on, which are so liable to appear in milk and milk products and give rise to errors which if not embarrassing to the physician are so to the medical officer of health. No staining method for the differentiation of members of this group, which are held to be closely related to one another, is given.

The book gives a very complete account of the various accidentally acid-fast bacilli which have been described and the supposed cause of the acid-fast character is discussed. The author concludes that the resistance to decolourisation is not due to fat, fatty acids, or cholesterin but he fails to establish the true cause. He does not deal with the question of the occurrence of forms of the tubercle bacillus which are not acid-fast. There is a good bibliography but, as is unfortunately so common in French works, no index.

The Production and Handling of Clean Milk. By KENELM WINSLOW, M.D.V., B.A.S. (Harv.); formerly Instructor in Bussey Agricultural Institute and Assistant Professor in the Veterinary School of Harvard University; Chairman of the Committee on Milk of the Washington State Medical Association, &c. London: Baillière, Tindall, and Cox; New York: William R. Jenkins Co. 1908. Pp. 207. Price 10*s.* 6*d.* net.

So far as the production, transportation, and distribution of milk are concerned, it may be said that, on the whole, the methods in force in the United States are superior to those which are adopted in this country. Therefore a book dealing with the subject written by an acknowledged American authority may well contain matters of instruction and interest for English readers. Such a work is that by Dr. Winslow who treats the milk problem from various standpoints. His main object, however, is to arouse the public to the dangers of contaminated milk and to lay stress on the fact that it is impossible to produce and to sell clean milk except at a considerably increased price. Many parts of the book deal with points which have been discussed so thoroughly already that it would be superfluous to summarise them. Of the chapters dealing with matters of less common interest we may mention that on "feeding for milk," in which Dr. Winslow points out that by suitable food and by judicious breeding it has been found possible to evolve an animal giving milk 1 per cent. richer than that common to its breed. The housing and care of cows are discussed in detail, while to the handling of milk and cream, as befits the importance of the subject, is devoted the longest chapter of the book. The numerous devices and inventions in use in the United States for carrying, cooling, straining, separating, and sterilising milk are explained adequately, and it is mentioned that if paper bottles came into use much of the trouble and expense now entailed by bottling milk would be done away. Some space is given to a consideration of the cost of producing and distributing clean milk, but as conditions differ somewhat widely in the United States and in this country the figures quoted will hardly apply to Great Britain. As for milk distribution, the methods in vogue in America are set forth, but again when this matter is considered the fact must be borne in mind that in American cities bottles are very largely used in the distribution of milk and that ice or some cooling apparatus is almost invariably employed both in transportation and in distribution. Milk inspection and the various modes of testing milk are treated at some length. In the appendix is to be found a considerable amount of valuable information regarding dairy cows and their management. The portion referring to barns and milk rooms is particularly good. Dr. Winslow writes favourably of milking machines and quotes the opinion of a well-known American dairyman to the effect that in time these machines will supersede milking by hand.

The book ends with the outline of a scheme for the control, supervision, and inspection of a city milk-supply, which, though intended for an American town, will well repay the attention of English readers. A special feature of Dr. Winslow's book is the number and excellence of its illustrations.

LIBRARY TABLE.

Clinical Lectures on the Surgical Diseases of the Urinary Organs. By P. J. FREYER, M.A., M.D., M.Ch. R.U.I., Surgeon to King Edward VII.'s Hospital for Officers and to St. Peter's Hospital; Consulting Surgeon to Queen Alexandra's Military Hospital; late Examiner in Surgery at the Durham University; Lieutenant-Colonel Indian Medical Service (retired). London: Baillière, Tindall, and Cox. 1908. Pp. 425. Price 12*s.* 6*d.* net.—In these clinical studies the greater part of the surgery of the urinary organs of the male is expounded. Many of those who heard them delivered at the Medical Graduates' College and at St. Peter's Hospital will be glad to have them in volume form. The most important chapters are those dealing with the enucleation of hypertrophied prostates. Whether Mr. Freyer was or was not the inventor of the operation we need not now discuss, but it is at least indisputable that to Mr. Freyer is due the present popularity of the enucleation of the prostate, and it is useful to have this latest exposition of his views. The lectures on the removal of stone from the bladder are also good. The book is well illustrated.

Pelvic Inflammations in the Female. By THOMAS WILSON, M.D. Lond., M.Ch. Birm., F.R.C.S. Eng., Obstetric Officer to the General Hospital, Birmingham. Bristol: John Wright and Co. 1907. Pp. 36. Price 3*s.* 6*d.* net.—Dr. Thomas Wilson chose the very important and practical subject of Pelvic Inflammations in the Female for the Ingleby lectures last year and has since published them in book form. His observations are based upon some 1092 cases seen as out-patients, a large number of post-mortem examinations, and a series of 307 cases which have required treatment in bed or operation. As a result of his study of this large number of cases Dr. Wilson has been able to bring together a very important series of conclusions. One of the most interesting questions in the treatment of acute pelvic inflammations due to puerperal infection is that of operative interference in these cases. The author unreservedly condemns the various radical operations which from time to time have been recommended. His own experience of removal of the uterine appendages with or without the uterus in six cases of recent puerperal septic and pyæmic conditions has not been such as to encourage him to add to it; for in none of the patients was death prevented, while in at least three it was hastened. In the case of complete disorganisation of the appendages the removal of the uterus by total abdominal hysterectomy is advised, and this operation is preferred to supravaginal amputation because of the lessened likelihood of necrosis of the tissues of the stump with the danger of infection of the cut surfaces

and pus formation, and further because the removal of the cervix permits free drainage to be provided into the vagina where this is considered necessary. These lectures which contain a large amount of information collected by a careful and scientific observer are of much interest and should prove of value to all those concerned in the treatment of these common affections.

Catalogue of Lewis's Medical and Scientific Circulating Library, Including a Classified Index of Subjects. New edition. Revised to the end of 1907. Pp. 500. Price to subscribers 2*s.* net; to non-subscribers, 5*s.* net.—This book contains upwards of 9000 titles, with the year of publication and price of each book, and also a "subjects and authors" index containing 10,000 references, and will be found useful as a work of reference quite apart from Mr. Lewis's library. The work has been carefully done. Here and there, as must happen in a book compounded of special titles and proper names, a slip occurs, but in most instances where we tested a reference we found it correct and we can imagine that such a list of scientific books might be very valuable to many people. The fact that the library is charitably inclusive, so that in the list a good deal of obsolete and unimportant literature can be found, adds to the utility of the work, for it is exactly the obscure book which is hard to find.

Alimentation et Hygiène des Enfants. Par J. COMBY, Médecin de l'Hôpital des Enfants Malades. Third edition. Paris: Vigot Frères. 1908. Pp. xii.-532. Price 5 francs.—The aims which inspired Dr. Comby to produce this work were in his own words "to write on a new plan a little manual of the hygiene of infancy which everybody can consult with profit. It is addressed not only to mothers of families and those persons engaged in looking after children but also to medical men who do not always pay sufficient attention to the small details of the proper rearing of children." In furtherance of this plan the book is cast in dictionary form, so that a mother anxious for instruction upon "feeding, nurses, clothes, games, baths, schools," and so on, can turn up the necessary article easily without having to hunt it out amongst a mass of confusing information. In a work of this nature, with a double appeal to the public and the medical profession, there is an obvious danger of falling between two stools, but the author seems to us to have succeeded reasonably in his purpose. The section dealing with nourishment is the most important in the book and has been done with care and knowledge. We note a small slip in revision on page 80, where it is stated that "Budin donne également le lait pur," and so on—a sentence which unhappily should run, "Budin a donné." The language is clear and avoids all needless technicalities. There are some useful remarks upon education which deal with older children and a section on infant protection which proves that France is well aware of her responsibilities in that respect, as well she need be. The book deserves success.

The Vermiform Appendix and its Diseases. By DUNCAN MACARTNEY, M.A. Edin., M.D. Glasg., Surgeon to the Glasgow Cancer Hospital; Senior Assistant Surgeon to the Western Infirmary of Glasgow; late Examiner in Surgery to the University of St. Andrews. Glasgow: James Maclehose and Sons. 1908. Pp. 104. Price 3*s.* 6*d.* net.—The literature of the surgery of the appendix is so vast, and most of the works on the subject are so great, that it should prove convenient to many to have available a brief account of the subject. Dr. Macartney's book is on a very moderate scale; it deals very fairly with most of the diseases of the appendix but especially with appendicitis. The author is in favour of operating at once on every case of appendicitis; this practice, he tells us, follows logically from the fact that we have no certain knowledge of the condition of the appendix by the time that appendicitis has declared itself. This immediate operation in all cases does not commend itself to most surgeons and we see no likelihood of the general adoption of the practice. Dr. Macartney prefers Battle's incision and we agree with him that it is very good and simple and that it is very unlikely to be followed by a ventral hernia.

JOURNALS AND MAGAZINES.

Transactions of the American Otological Society. Fourteenth Annual Meeting. New Bedford, Massachusetts: Mercury Publishing Company. 1907.—Amongst the more important contributions to this volume are a series of papers on the Mastoid Operation, by Dr. William Bryant, Dr. E. A. Crockett, and Dr. James McKernon; a paper on Otitic Brain Abscess, by Dr. Dench; an Argument for Preliminary Ligation of the Internal Jugular Vein in the Treatment of Lateral Sinus Thrombosis, by Dr. Reich; a Case of Bilateral Thrombosis of the Sigmoid Sinus, with Recovery, by Dr. Grüning; Anatomical Considerations bearing on the Problem of Bone Perception, by Dr. Shambaugh; and a Case of Fatal Hæmorrhage from the Jugular Vein in Suppurative Otitis Media, by Dr. Jack and Dr. Verhoeff. All the papers in this volume are well up to the standard of excellence usually found in the work of this well-known society.

Zeitschrift für Laryngologie, Rhinologie, und ihre Grenzgebiete (Journal of Laryngology, Rhinology, and Allied Subjects). Würzburg: A. Stuber. 1908. Price 24 marks per annum.—This number contains the following articles:—Morphology and Terminology of the Middle Meatus, by Professor Heymann and Dr. Ritter. Angiomata of the Mouth, Naso-pharynx, and Larynx, by Dr. Voigt; this article is illustrated with a coloured plate, showing angiomata of the fauces and the larynx. Laryngeal Affections and Syringomyelia, by Dr. Iwanoff. The So-called Laryngitis Nodulosa, by Dr. Gerber. A Case of Congenital Air Cyst of the Larynx in a 16-day old Child, by Professor Kan. Congenital Membranous Webs in the Larynx, by Dr. Hamsberg. Amputation of the Epiglottis for Tuberculous Laryngitis, by Dr. Möller. Importance of Œsophagoscopy for the Diagnosis of Impacted Foreign Bodies, by Professor Starck. Neglect of an Important Operation for the Verification of Diagnosis, by Dr. Goris. Disturbances of Speech and Rhino-Laryngology, by Dr. Gutzmann. There is also a brief abstract of current literature followed by an abstract of meetings of societies.

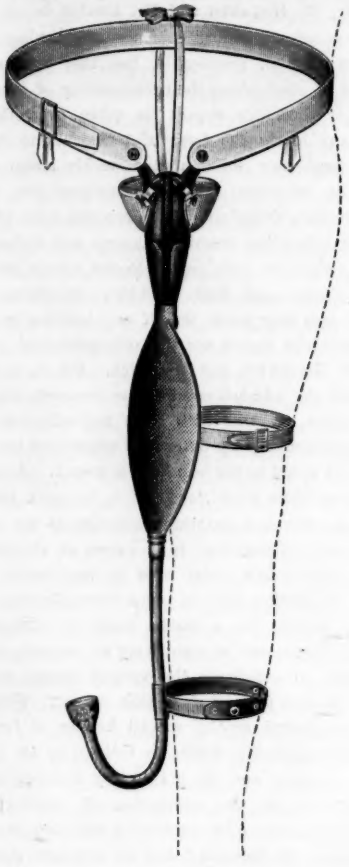
Journal of Laryngology, Otology, and Rhinology for April and May.—The April number contains a report of several societies, with some reviews. The May number contains a brief obituary notice of Professor Schrötter and a paper entitled Contributions to the Surgical Treatment of Laryngeal Stenosis by Dr. E. von Navratil, with a Note on the Examination of the Nose by Dr. Mackenzie.

New Inventions.

A NEW PORTABLE URINAL.

WE have received from Messrs. Ellis, Son, and Paramore of Sheffield a sample of a urinal which they have recently designed for a customer, and as he has expressed high praise of its advantages over the style of urinal which he had been wearing previously they propose to put the instrument on the market. We have had trial made of the apparatus and think that it will be found to possess the advantages claimed for it. One innovation brought out by the illustration is that the

hole at the top is so arranged that when the urinal is on the patient the instrument is very close fitting and there is no bulging outwards of the clothes, which is undoubtedly an unæsthetic feature of many portable urinals. The tubing at the bottom of the bag which passes down the leg is provided with a stopcock at the bottom so that the wearer may empty the vessel more conveniently than by lifting the bag from its position. This tubing is provided with a rubber leg band, keeping the pipe well under control when walking.



The urinal has been of course designed for both night and day use, but those who have to wear such apparatus know well that it is in the day-time that their inconveniences mostly arise. At night, in the privacy of their chambers, no further concealment is necessary, and it is not hard to devise an effective and cleanly form of portable urinal, but by day this is not so easy, and patients will be glad to provide themselves with an apparatus which will allow them to travel comfortably while keeping their infirmity hidden from the public gaze.

ILFORD X RAY PLATES.

WE have received further samples of x ray plates from Messrs. Ilford, Limited, of Ilford, London, E. We have subjected these to careful test in clinical work and are pleased to note that while retaining all the good qualities of which we spoke in a previous notice they have added that of greater rapidity to their other virtues. To attain this rapidity, however, it is necessary to use the developing formula given on the box, thus differing somewhat from ordinary photographic plates which give practically identical results with any standard developing solution. In our opinion the Ilford x ray plates are the best and the most rapid at present obtainable, and we may say that this opinion is not based on the use of these few samples but upon the employment of some thousands of these plates. Other things remaining the same, short exposures are the great desideratum in radiography, and so long as the modern x ray tube remains substantially in its present form it is to the photographic plate we must look to attain this end. On this account we hope that Messrs. Ilford, Limited, will not be content to rest on their oars but will strive, by means of further experiment and research, to obtain a still higher degree of rapidity. The makers are prepared to supply their emulsion coated on celluloid films of any size, such as are used in instantaneous radiography, on receiving a few days' notice.

Looking Back.

FROM

THE LANCET, *SATURDAY*, July 3rd, 1830.

THE sufferings of GEORGE the FOURTH have terminated; his Majesty expired on Saturday morning last, soon after three o'clock. The sad intelligence was communicated on the same day to the Lord Mayor, in the following curious note from Sir Robert Peel:—

"Whitehall, June 26th, 1830.

"My Lord,—It is my most *painful duty* to inform you, that it has pleased Almighty God to *release* His Majesty from his *sufferings*. His Majesty died at about a quarter past three o'clock this morning.—I have the honour to be, my Lord, your lordship's obedient and faithful servant,

"ROBERT PEEL."

The circumstances which have attended his Majesty's lamented illness, have been of so mysterious and extraordinary a character, the deception practised upon the public has been of so scandalous a nature, and the bulletins issued by the medical attendants have been so justly and severely reprobated, that we think it right to collect the whole of these documents, and place them in one view, before the eyes of this insulted community.

"Windsor Castle, April 15, 1830.

"We regret to state that the King has had a bilious attack, accompanied by an embarrassment in breathing. His Majesty, although free from fever, is languid and weak."

"April 19.—His Majesty continues to suffer occasionally from attacks of embarrassment in his breathing."

"April 22.—The King is better."

"April 24.—His Majesty has passed two good nights, and continues better."

"April 26, 9 o'clock A.M.—The state of the King's health continues much the same. His Majesty has had a good night."

"April 27, half past 10 A.M.—The King continued as well as his Majesty has been for several days past until this morning, when his Majesty experienced a return of the embarrassment of his breathing. His Majesty is now again better."

"April 28, 11 o'clock A.M.—The King has suffered less from the attacks of embarrassment in his breathing since our report of yesterday, and his Majesty has passed a good night."

"April 29.—The King continues much in the same state, with occasional embarrassment in his Majesty's breathing."

"April 30.—The King had several hours of refreshing sleep last night. His Majesty's symptoms are somewhat alleviated."

[Here follow daily bulletins from May 1st to June 19th, a period of seven weeks, which we have not the space to transcribe in our issue of July 4th, 1908, but proceed to transcribe the bulletins of the last seven days of the King's illness.]

"June 20.—The King's rest has been interrupted by cough, with expectoration during the night. His Majesty complains less, however, this morning."

"June 21.—The King's rest has again been broken by the cough and expectoration. His Majesty feels languid this morning."

"June 22.—The King has passed a good night. His Majesty's cough and expectoration continue."

"June 23.—The King is still troubled by his cough, but it has not interrupted his rest; and his Majesty awoke refreshed this morning."

"June 24.—The King's cough continues with considerable expectoration. His Majesty has slept at intervals in the night, but complains of great languor to-day."

"June 25.—The King has slept at intervals during the night, the cough and expectoration continue much the same, but his Majesty is more languid and weak."

"June 26.—It has pleased Almighty God to take from this world the King's most excellent Majesty. The King expired at a quarter past three o'clock this morning without pain."

[Here follow eight columns of observations and the official report of the morbid appearances which were observed at the post-mortem examination of the body of the King, signed by Sir Astley Paston Cooper.]

THE LANCET.

LONDON: SATURDAY, JULY 4, 1908.

Some Considerations as to the Metropolitan Aspects of the Housing Question.

THE discussion of the housing problem is becoming a sort of popular pastime and everyone, whether he has studied the problem or not, appears to have a panacea for it; some have several panaceas, as has been seen recently during the useful debates which have taken place at the Pan-Anglican Congress. The problem of housing some six millions of persons in such a fashion that each shall have a minimum of cubic space, of light, of relatively fresh air, and last, but in no sense least, of sex separation and privacy, ought not in the present temper of the public to be an insoluble one; indeed, it would seem that in some sort of sub-conscious fashion factors are at work which will eventually lead to the problem solving itself. But evolution on these lines will be halting, uncertain, and wasteful, and most of the adults upon the surface of this planet now will have sunk beneath it before much is accomplished. Still, it must be recognised that the flowing tide is with the housing reformer and that the growing desire for physical well-being, the limitation of the hours of labour, the development of electric traction, cheap fares, high London rates, and such like are all making for that residential exodus from the metropolis which is likely ere long to call for the application of the provisions of Mr. BURNS'S Town-planning Bill in the counties immediately around London. But the housing of the London poor is by no means as bad as those who have seen nothing else would lead us to suppose. If a foreigner desired to see English housing at its worst he would not be shown the East-End of London but the slums of some of our provincial cities wherein is to be found row upon row of back-to-back houses in narrow, airless, lightless alleys, and where, in addition, he could study all the drawbacks of the conservancy method of excrement disposal. Or he might be taken to some of the mining districts of Durham or to famous Whitehaven to see the conditions which the abuses of building by-laws allowed to come into existence.

In so far as London is concerned, although we have made, and are making, progress, there is obviously much still to be done, and in an interesting report recently presented to he executive committee of the Mansion House Council on the Dwellings of the Poor by Dr. A. H. HOGARTH, its medical officer, and Mr. W. F. CRAIES, its architect, certain aspects of the problem are dealt with which are worthy of consideration. These gentlemen discuss the subject in some detail nd much of the material which they have brought together will be useful to other students of the problem. The inner, middle, and outer zones of the areas embraced by London proper and its surrounding districts as far out as Croydon on the south and Enfield on the north are dealt with separately, a map illustrating the several zones having been reproduced from the London County Council report on New Working-class Accommodation. As regards the inner zone, which comprises such districts as Bermondsey, Westminster, and Stepney, Dr. HOGARTH and Mr. CRAIES do not think that any extensive building schemes are, having regard to the cost of land, practicable, but they suggest that with a view of diminishing the overcrowding of persons in houses empty dwellings should be taken over, rendered habitable, and let in the form of tenements to families having at least two children at a weekly rental of not more than 2*s.* per room. It is contemplated that in this fashion it would be found possible to rehouse some of those persons now inhabiting insanitary houses and underground dwellings. Similarly with regard to the middle zone the writers deprecate any fresh building operations on a large scale, but they think that if any building is undertaken it should be mainly for the old-established poverty of Deptford, Greenwich, and Woolwich. For the rest they consider that the adaptation of empty houses in the sense suggested above, together with some redistribution of the existing population over the outer zone where good travelling facilities exist would be the best lines of attack. As regards the outer zone there would, they think, be much less difficulty in promoting new buildings, although at the present time the supply of buildings is in excess of the demand. The chief point in this outer zone is that future building should be carried out on some town-planning lines; that there should be a traffic board to arrange for travelling facilities and a committee to suggest schemes and generally to coördinate the various forces, organisations, and persons interested in this matter. What may perhaps be regarded as the special feature of the joint report is the suggestion, made, we believe, by Dr. J. F. J. SYKES some years ago in his Milroy lectures on the housing question, for the adaptation of existing empty houses into what would be technically regarded as houses let in lodgings. Dr. HOGARTH and his colleague show that schemes of this nature have been made financially profitable, while at the same time there is a distinct social and hygienic advance, not only in the dwellers in these tenements but by their influence upon the surrounding population. They also advocate improvement by the personal supervision of slum dwellers; indeed, all along the line they seem to contemplate, unconsciously perhaps, some sort of public-spirited policy on the part of the better classes as takes shape in Germany under the name of the Elberfeld system. Although possibly the proposals made in the report before us will not carry us a very long distance they are well worthy of consideration and, above all, of trial, and we quite agree with Dr. HOGARTH and Mr. CRAIES in advocating more coöperation between all existing organisations, municipal and philanthropic, as also in a proposal that there shall be a systematic development of new traffic routes and methods.

A much more drastic and direct proposal as regards the housing of London's population is made by Mr. F. B. BEHR in the June number of the *National Review*. In his opinion

it is necessary in order to commence in an economical and thorough fashion to create fresh centres in places some 20 miles from London where land is relatively cheap and, recognising that in these circumstances existing modes of transit are useless if the first principle of new housing—that the worker shall not be more than an hour's journey from his work—is to be observed, he proceeds to develop new lines upon the Behr high-speed monorail system, by means of which a speed of 100 miles an hour can be attained without danger. The scheme is briefly this. There are three classes of people to be considered—day labourers, skilled workers, and clerks, groups which do not readily mix with one another. Mr. BEHR considers that by the removal of the second and third groups more room will be left for the first—the day labourers—whose circumstances of employment and remuneration necessitate their living near their work. Land is to be acquired at two centres: one 18 miles and the other 20 miles from London; in the first centre are to live the skilled workers, and in the second centre the clerks. Between 6 and 8 A.M. trains will run every two minutes from the 18-mile centre, and between 8 and 10 o'clock every two minutes from the 20-mile centre, there being another four hours of rapid train service to bring the people home in the evening. Each centre is to have a population, at first, of about 27,000, and to be arranged upon a definite plan with not more than 12 houses to the acre, and the cost of the whole undertaking has been worked out by Mr. BEHR in a fashion to yield well over 4 per cent. interest. He evidently thinks that philanthropy may reasonably be called upon to provide this capital, and, indeed, we rather gather that he has visions of a possible Government loan at some 3 per cent. interest. The proposal is by no means a visionary one and obviously the whole question of the population of London sleeping much beyond its present confines is merely a matter of rapidity and cheapness of transit. In the old coaching days the season ticket limits of to-day would have been impracticable, and if the economical aspects of the problem are to be guarded adequately some bold stroke, such as is here contemplated, is absolutely necessary. Some, however, will be inclined to ask, why not remove the industries from London as well, but this opens up a larger issue than we can conveniently deal with in this article.

First Aid.

IN THE LANCET of June 27th, p. 1857, reference was made to the successful efforts of the Viennese Street Ambulance Corps to meet the demand upon its services due to the recent jubilee pageant at Vienna. And now the serious and systematic manner in which ambulance service is being approached on the Continent is set before us in a volume containing a formal record of the first International First Aid and Life-saving Congress which was held during the early part of the summer at Frankfort-on-Main, embodied in the form of brief synopses of reports and papers laid before the Congress. Perusal of this volume arouses a feeling of admiration for the trouble which must have been taken by all concerned in order to insure a satisfactory exchange of opinions and experiences upon so important a subject and one of regret that England should not be represented in it by a larger number of useful papers on the important topics treated, such as those dealt with by three of our own countrymen whose names we observe. These are Mr. J. W. CROSTON who discussed the organisation and training necessary in order to enable railway companies to cope with their own needs for ambulance service and those of the country, whether in peace or war; Mr. S. OSBORN who took for his subject First-aid in London and the work of the St. John Ambulance Association; and Mr. HORACE FOLKER who gave information as to the work of the ambulance department of the National Fire Brigade Union, of which he is a vice-president. All these are important topics, for the study of which there is ample opportunity in this country, and we must express the hope that the inevitable difficulties surrounding attendance abroad on such an occasion may be overcome and that English experts may be found to come forward in a larger proportion than 3 to 77 of other nations, should the congress be repeated.

In considering the subjects discussed at the congress in question by foreigners of all nations we note that many of these would probably have been interested by an exposition of the methods adopted in England for the removal and isolation of cases of infectious disease. These with us are so completely under the control of legally constituted sanitary authorities that reference to them in pages chiefly devoted to the organisation of more or less voluntary ambulance work seems out of place. With regard to what may be called ambulance work pure and simple, arising, as it does, largely out of what we know as "accidents" in ordinary life or in the pursuit of some trade or industry, the field of discussion is a very large one and there should be room for a correspondingly important contribution of fact and opinion from our large labour centres and crowded cities. The essential difference between ambulance work in England and that on the continent can, however, readily be felt by those who read even the greatly condensed observations of German, French, and Russian authorities as indicated in the pages before us, a difference which must necessarily follow from conditions which to our neighbours are part of their ordinary life as citizens. Compulsory military service and the ever-present possibility of the employment of the country's army upon active military operations on a vast scale combine to train and to stimulate men engaged in peaceful occupations for duties and responsibilities which will have to be faced in earnest when war arises. To these the ambulance corps which deals with a mining or railway accident by means of its organisation and training is keeping itself in practice with a view to that work which is more essentially the service of the Red Cross and which may at any time have to be done under the scanty protection afforded by that noble emblem. Quite possibly with the development of a new military system in England we may find that a fresh impetus has been given to a useful movement and that those who in the past have had the energy and public spirit to enrol themselves in the ambulance sections of our volunteer battalions or in the

St. John Ambulance Association will find their numbers augmented.

It is to be hoped that such will be the case, for the training is one of practical utility in whatever circumstances "first aid" may be required, and if ever what Mr. KIPLING calls "the real thing" happens so as to affect our territorial forces directly, it will be too late to remedy deficiencies which in peace time we may have regarded with indifference. There is a branch of life-saving and first aid to which it is most appropriate to call attention at the present season. With the warm weather bathing becomes universal, and with the advent of the summer holidays drowning accidents figure very frequently in our newspapers. These, be it remembered, are the fatal cases as a rule, some of which might have been averted by means of a knowledge of how to aid a struggling swimmer or how to resuscitate the insensible body brought to shore apparently dead. The cases in which knowledge of how to save life has figured, particularly when it has been exhibited in the less heroic manner by treating the half-drowned person, are often not reported, and we would commend the first aid to be rendered in such cases to the attention of all.

Improvement of Official Statistics.

Sir CHARLES DILKE in his address in November last, as President of the Royal Statistical Society, revived an important and interesting question which was considered and reported upon by the Official Statistics Committee appointed in 1877 by the late Mr. W. H. SMITH when Secretary of the Treasury, the final report of which committee was issued in 1880. This report suggested the creation of a small central statistical department for the general supervision and control of official statistics, and Sir CHARLES DILKE in his address strongly urged the increased necessity, after the lapse of nearly 30 years, for action in this direction. At the last meeting of the Royal Statistical Society on May 16th Mr. ARTHUR L. BOWLEY, M.A., read a paper also dealing with the desirability of creating a central statistical authority in order to promote the improvement of official national statistics. In this paper, having regard to the object in view, it was perhaps natural that Mr. BOWLEY should have condemned somewhat too generally the value of the statistics issued by the various Government departments. The want, however, of uniformity and of general coördination in the statistics prepared and issued by different executive departments has long been generally admitted, although no measures have yet been adopted for carrying out this reform since the recommendation made in the report of the committee referred to. Sir CHARLES DILKE and Mr. BOWLEY give many striking examples of overlapping and even of contradiction in separately issued official statistics. M. CHEYSSON, an eminent French statistician, published in 1882 a report on the condition of Government statistics in various European countries, with a view to the creation of a general supervising and controlling authority in France, in order to bring about "harmony, proportion, order, and uniformity of arrangement in national statistics." As a result of this report a French Conseil Supérieur de Statistique, modelled on that of Belgium, was founded in 1885. M. CHEYSSON recommended in the first instance, and his advice was followed, coördination through a representative advisory committee in order to allay departmental suspicion and opposition. Sir CHARLES DILKE, however, in his address, expressed the opinion that "a mere meeting of statisticians from the various departments would be an insufficient result of our labours; a permanent statistical direction is, I think, required." It is obviously necessary, with a view to the improvement of official statistics, that the chief of the statistical branch of each Government department charged with the preparation of statistics should be a trained statistician. If this condition were fulfilled it would then become a question whether M. CHEYSSON'S proposal for the creation of a consultative council, consisting of the chiefs of the statistical branches of the principal government departments, with, perhaps, one or two added unofficial statisticians, would not be preferable to the creation at present of the directing central statistical department recommended by Sir CHARLES DILKE. It certainly appears that to divorce the compilation of official statistics from the executive staff having the control of the collection of the statistical material would be a doubtful advantage and would involve some risk of deterioration in the result, since the true value of statistics depends much upon an accurate appreciation of the precise method of collection and of its various sources of possible error. We cannot, for instance, imagine that to transfer to a central statistical office the preparation of statistics of population, births, marriages, and deaths from the Registrar-General, who is the administrative chief of the large staff of outdoor officers who furnish the returns from which these statistics are compiled, would have any beneficial result. At the same time we wish every success to Sir CHARLES DILKE'S desire for the creation of some central statistical authority with administrative or consultative power to promote greater uniformity and further improvement of our official statistics which are very generally admitted to be necessary.

Annotations.

"Ne quid nimis."

THE BIRTHDAY HONOURS.

IN the long list of birthday honours published last week the following names of medical men occur:—Sir Thomas Lauder Brunton, LL.D. Aberd. and Edin., M.D. Edin., F.R.C.P. Lond., D.Sc. Edin., F.R.S., and Professor William Watson Cheyne, C.B., LL.D., M.B., C.M. Edin., F.R.C.S. Eng., D.Sc. Oxon., F.R.S., upon whom Baronetcies have been conferred; Brevet Colonel David Bruce, R.A.M.C., C.B., F.R.S., Mr. Robert William Burnet, M.D., C.M. Aberd., F.R.C.P. Lond., and Mr. Peter O'Connell, M.D., M.Ch. R.U.I., who have received the honour of Knighthood; William Henry Power, C.B., who has been promoted from a Companion of the Order of the Bath to be a Knight Commander of his Order; Lieutenant-Colonel Johnston Shearer, I.M.S., D.S.O., who has been made a Companion of the Bath, and Lieutenant-Colonel Francis Frederick Perry, I.M.S., honorary surgeon to the Viceroy, and principal of the Medical College, Lahore, who has been appointed a Companion of the Indian Empire. Sir Lauder Brunton,

as our readers know, has made many valuable contributions to medical science and was our representative at the second Hyderabad Chloroform Commission and assisted to draw up the able report which was published in THE LANCET in 1890.[1] He was also a member of the commission which went to France to report on the treatment of hydrophobia by Pasteur's method. His "Handbook of Pharmacology, Materia Medica, and Therapeutics" is well known, as are also his "Disorders of Digestion, their Consequences and Treatment" and his "Collected Papers on Circulation and Respiration." Sir William Watson Cheyne, who was a consulting surgeon to the forces in South Africa during the late war, has been for many years in the van of scientific surgery. His Wightman lecture on the Defensive Arrangements of the Body, which we published in our last issue, is a thoughtful study of important problems the solution of which has a vital bearing on our medical and surgical procedure and well illustrates his manner of approaching surgical problems. He has contributed largely to professional literature, among his works being "Antiseptic Surgery: its Principles, Practice, History, and Results," and the "Manual of Surgical Treatment," written in conjunction with Mr. F. F. Burghard. Sir David Bruce, a member of the Army Medical Advisory Board, director of the Royal Society's Commission for the Investigation of Sleeping Sickness, and chairman of the Commission for the Investigation of Mediterranean Fever, is the well-known discoverer of the bacillus Melitensis, the immediate cause of Malta fever. His bacteriological investigations will long remain a monument to his patient research in the cause of sickness, especially in those diseases which so terribly handicap the white man in hot climates. His contributions to medical literature include "Malta Fever," "Nagana or Tsetse Fly Disease," and "Sleeping Sickness." Sir Robert W. Burnet, honorary physician to the Prince of Wales, was the friend of the late Prime Minister and was his medical attendant during his last illness. He is the author of several medical works. Sir Peter O'Connell is surgeon to the Mater Infirmorum Hospital and High Sheriff of Belfast. Sir William Henry Power, K.C.B., late medical officer to the Local Government Board and Crown nominee on the General Medical Council, is a member of the Royal Commission on Sewage Disposal. His investigations with regard to infectious diseases are well known and his position was admirably summed up by the late Sir Richard Thorne Thorne when he described him as "the greatest living epidemiologist." The nursing profession is represented in the birthday list of honours by the inclusion of the name of Miss Ethel J. Martin, matron of Queen Alexandra's Imperial Military Nursing Service, who has had conferred upon her the decoration of the Royal Red Cross.

SIR HENRY ALFRED PITMAN'S CENTENARY.

ON Wednesday, July 1st, Sir Henry Alfred Pitman reached the age of 100 years, having been born in 1808. Sir Henry Pitman's health is wonderfully maintained when his age is taken into consideration, while it is a sufficient testimonial to the working of his mental faculties when we mention that until the present year he has continued to act as auditor of THE LANCET Relief Fund. Among the many tokens of regard which Sir Henry Pitman has received there is one which we know that he will highly prize—viz., a handsome silver-gilt bowl, which was conveyed by a party of old friends and colleagues at the Royal College of Physicians of London, who proceeded to Enfield, where he resides, on July 1st, to felicitate him. Amongst these were Sir R. Douglas Powell, Sir Dyce Duckworth, Dr. G. Fielding Blandford, Sir William H. Allchin, Dr. Edward Liveing, Dr. C. Theodore Williams, and Dr. Frederick T. Roberts. The bowl bears the following inscription: "Presented to Sir Henry Alfred Pitman, July 1st, 1908, on the hundredth anniversary of his birth and in recognition of his long and valuable services as Registrar of the Royal College of Physicians." The Royal College of Surgeons of England has been no less prompt to recognise the occasion. From a letter sent to Sir Henry Pitman by the council of the College, and signed by Mr. Henry Morris, the President, and Mr. Rickman J. Godlee and Sir William Watson Cheyne, Vice-Presidents, we take the following passage:—

> We recall with satisfaction, and hold in great estimation, the valuable services, in the best interests of both medicine and surgery, rendered by you as registrar of the Royal College of Physicians, and as a member of the joint committees of the two Colleges; and the records of the Colleges bear witness to the energy and wisdom with which, throughout your tenure of office, you sought to foster and promote a high moral, social, and educational standard of the profession in this country.

A telegram of congratulation was received from the King, and an album of signatures from St. George's Hospital. We desire to associate ourselves with the numerous expressions of congratulation which Sir Henry Pitman has received. As a public servant and as a private friend he has been known to us personally for considerably over half a century, and we greet him on completing his hundredth year with every feeling of hearty and affectionate respect.

"SCOTT OF BROMLEY."

A CORRESPONDENT writes:—"Great reputations have a way of fading into obscurity with a rapidity not always deserved. No one now cites 'Scott of Bromley,' yet an obituary notice of him in Vol. II. of THE LANCET of 1848 speaks of his career as 'unparalleled in the annals of general practice.' The writer of 60 years ago is anxious that Scott should be remembered for all time, not only by the medical profession but by humanity at large. James Scott was a self-made man. He studied at the London Hospital, where he was a favourite with Blizard. Buying a small surgeon's practice at Bromley, which was worth £300 per annum, he soon raised its value to £1500 annually. He is said to have 'made it a constant rule to apply every dressing and perform every surgical manipulation himself.' He thus acquired a 'tactus eruditus' unrivalled at that time. He was a typical surgeon of his generation, bluff but kind, and inspired the greatest confidence in his many fashionable patients. Millar in the 'Principles of Surgery,' p. 375, says: 'Much credit is due to Mr. Scott for having directed attention to the importance of rest and pressure, combined with moderate irritation of the surface; and a modification of what is ordinarily termed "Scott's dressing" will be found a most valuable remedy in all chronic affections of joints.' His books on this and kindred subjects 'showed a profit of at least £10,000 a year for some years.' Truly, it would seem that, as THE LANCET biographer remarks, 'the lives of such men belong to all time.' The writer of the present note is reminded of James Scott—the magnificent mezzotint of whose portrait, engraved by C. Turner after Howard, R.A., is in its early state a collector's prize at this day—by finding the following account of one of his dressings in an old diary: 'I was under many surgeons—old John Scott in Broad Street, City, and after him his son [the diarist confuses father and son here]. Their way of treating it [a fractured periosteum of the tibia, originally doctored with "a bit of brown paper soaked in vinegar" in 1829!] caused horrible pain. It consisted in covering the place with a quantity of ointment and then strapping it up from the ankle to the knee—tight—with strips of diachylon plaster and a cotton bandage. This ate into the very flesh, and when I was wild with pain I passed an ivory knitting pin inside the plaster and drew it

[1] THE LANCET, Jan. 18th (p. 149) and March 1st, 1890 (p. 486).

out covered with blood.' It should be borne in mind that this last was the desperate proceeding of a child under 15 years old. Callaway cut away the dressing and proceeded to new tortures with caustic, and partial relief was only found under Joseph Henry Green and Sir Benjamin Brodie, and later Rigaud in France, merciful men if any were. The whole thing happened a long time ago and the erewhile sufferer died at a very advanced age in 1905. The passage in the diary is only cited as proof of the painful and rudimentary practice of even famous surgeons before the days of Listerism."

THE TELEPHONE AND THE SPREAD OF DISEASE.

WE have received from the Post Office a copy of the report made by the City medical officer of health some three years ago upon the possible spread of infection by call-office telephones. It may be remembered that Dr. W. Collingridge examined a considerable number of call-office telephones and found them to be free from disease germs, but this fortunate fact does not minimise the importance of the report made in our columns last week by Dr. Francis J. Allan, medical officer of health of Westminster, who clearly showed that in certain cases call-office telephones may be a distinct source of danger to the public. It is quite true, as was stated on Monday last by the Postmaster-General in the House of Commons, that Dr. Allan found no trace of disease germs in five out of six call-office telephones which he tested, and it may be that the sixth instrument where a dangerous state of things was observed had particular features in its station to account for its condition, but it is impossible to minimise the fact that Dr. Allan has clearly proved that the call-office telephone may be a source of great danger.

THORACOSTOMY IN HEART DISEASE.

WE publish in another part of this issue of THE LANCET an interesting paper by Dr. Alexander Morison in which some observations are made concerning an operative method devised to afford relief to certain cases of enlarged heart. The enlarged area of pulsation and the forcible thrust against the chest wall in cases of greatly hypertrophied heart are familiar features in the clinical picture of certain forms of cardiac disease. Some years ago Dr. Morison suggested that the severing of pericardial adhesions by surgical methods might eventually be a practicable procedure, and again in a paper read before the Æsculapian Society and published in THE LANCET of July 28th, 1906, he suggested that the hypertrophied heart needed more room to work in and that it was possible that in the future a means might be found to provide such increased room by surgical methods. He now gives references to the actual carrying out of operations specially devised for this purpose with which he has recently become acquainted. He finds that as long ago as 1902 Professor Brauer proposed that the costopericardial adhesions in cases of adhesive pericarditis should be separated, and operations were carried out upon two of his cases by Professor Petersen and Dr. Simon, pieces of several ribs being resected in the first case, while in the second case a portion of the sternum was also removed. A third case was operated upon by Dr. Simon, and Dr. Morison is privately informed that a fourth case has been operated upon under Professor Brauer's supervision. Professor Wenckebach has also published a case in which parts of several ribs and their cartilages were removed. Dr. William Mackenzie of Melbourne has independently suggested the removal of portions of the sternum and ribs in order to free the heart from costopericardial adhesions. Still more recently Dr. Morison has developed the principle of affording relief to intrathoracic pressure by operative procedure by applying it to a case of mediastinal tumour involving the heart and to a case of cardiac pain associated with enlarged heart due to aortic valvular disease with a view to afford increased room independently of any question of relief of tethering due to pericardial and costopericardial adhesions. The clinical features of the latter case are described in detail in his paper. The patient was a clerk, aged 19 years, with aortic valvular disease associated with severe attacks of pain. After rest and medical treatment had failed to give relief Mr. Ewen C. Stabb, at Dr. Morison's suggestion, performed on May 1st an operation, removing four and a half inches of the fifth rib and five and a half inches of the sixth. The results of the operation to date appear to have been satisfactory and there has been considerable relief to the pain from which the patient suffered. It is obvious that the greatly hypertrophied heart has to make room for itself in the closed thoracic cavity and the bulging of the præcordia in children is an evidence of the force which it exerts upon the more easily yielding thorax in early life; consequently from a theoretical point of view the suggestion to afford increased room for the heart or to lessen the resistance which it has to contend against is one which has much to commend it. Practically, however, the procedure is a somewhat serious one to recommend to a patient with grave organic disease of the heart, involving as it does anæsthesia with a more or less extensive operation. Dr. Morison himself deprecates laying too great stress upon the result in a single case. Moreover, the time which has elapsed since the operation is very short. We shall await with interest the further progress of the case, and meanwhile we may congratulate Dr. Morison and Mr. Stabb upon the result so far obtained. We cannot but feel, however, that the cases submitted to this operation will require most careful selection, even should the permanent results prove as encouraging as those immediately obtained.

A "PSYCHIATRIC CLINIC" FOR THE JOHNS HOPKINS HOSPITAL.

Mr. Henry Phipps, who is a steel magnate of the United States, makes very good use of his fortune. He has founded model tenement houses in New York and endowed a special dispensary for pulmonary tuberculosis in connexion with the Johns Hopkins Hospital at Baltimore. That great centre of American medical research has benefited recently by a further gift of $750,000 from the same philanthropist for the purpose of founding a hospital for the treatment and study of acute mental disease such as Dr. Henry Maudsley's munificence has insured recently for London. The intentions of both benefactors are the same and were set forth in the leading article in which we discussed Dr. Maudsley's recent offer to the London County Council.[1] Mr. Phipps has made a study of the conditions under which the insane are treated in America and has concluded that the system is not worthy of his country; he is said to have been stimulated in his inquiry partly by the allegations made against it in that remarkable autobiography, "A Mind that Found Itself," which we discussed last week in these columns. Be that as it may, he has been convinced that a hospital is needed urgently in which sufferers from early mental disease can be treated on general hospital lines without the stigma of undergoing certification or the distress of mixing with degraded dements. He wishes the institution to possess a thorough laboratory equipment and to afford every opportunity for the routine study of psychiatry by students of medicine. To these ends he will found a hospital

[1] THE LANCET, March 7th, 1908, p. 728.

for some 60 patients in the precincts of the Johns Hopkins Hospital and will provide for its upkeep, as well as for the maintenance of a professor of psychiatry, for a period of ten years. This professor will be the director of the hospital, and he will be assisted by a resident physician and two assistant physicians upon the clinical side, and by three physicians in charge of the pathological, chemical, and psychological laboratories upon the purely scientific side. The director, when he has been chosen, will visit Europe in company with the architect in order to study the construction and equipment of approved continental hospitals for the treatment of mental diseases. Mr. Phipps announced his splendid gift in a letter to Dr. W. H. Welch, who is credited with having aroused his interest and given him much expert advice in the matter. In the course of this letter he wrote: "It is my hope and expectation that the psychiatric clinic thus founded may serve as an example of what such institutions should be, and prove to be a stimulus to the establishment of similar hospitals and professorships elsewhere." Here is a plutocrat who brings a clear head as well as a singularly open hand to the bestowal of his charity. We congratulate Johns Hopkins University and Baltimore upon so important an addition to their scientific and humanitarian resources.

DISEASES AND INJURIES OF THE ANCIENT EGYPTIANS.

MEDICAL men who are interested in the history of medicine will find an opportunity in connexion with the annual exhibition of preparations recently added to the Museum of the Royal College of Surgeons of England on July 2nd, 3rd, and 4th, of examining an extensive and remarkable series of specimens illustrating the diseases and injuries of the ancient inhabitants of Upper Egypt. It is not too much to say that this collection, which is destined to find an appropriate home in the Hunterian Museum, is one of the most important contributions ever made to the history of medicine. The specimens were collected during the exploration of some 57 cemeteries in Nubia, just beyond the confines of Upper Egypt, and represent accidents and diseases of every period of Egyptian history from early predynastic times to the comparatively recent Roman and early Christian periods. The collection, which embraces over a hundred specimens of healed fractures of various bones, was made by Dr. Wood Jones, under the direction of Professor G. Elliot Smith, during the survey necessitated by the projected raising of the level of the Aswan dam.

THE DIRTY CUFF.

FROM an æsthetic point of view the cuff seems to be an indispensable part of the clothing of the neatly and cleanly dressed individual. This assumes, of course, that the cuff is clean and spotless. Bacteriological refinements are often dismissed by many people as inadmissible in the common applications of life, but the exhibition of a dirty or even frayed cuff is commonly held to be the mark of slovenliness and dirt or as an indication that the individual has lost all regard for his cleanly appearance and condition. There can be no doubt at all that when the cuff picks up, as it is so prone to do, dirt from the counter, desk, or table it picks up also a multitude of micro-organisms. Dirt so far may be welcomed, inasmuch as it indicates an insanitary state of affairs. There is therefore a very strong scientific argument in favour of the wearing of materials which readily exhibit the signs of soiling. The white dress, the drills, and the ducks must necessarily be cleaned at regular intervals because they look unsightly or are an offence to the eye. The demand of the eye thus encourages the preservation of the hygienic state. It is so also with the cuff. No man with any respect for himself can wear a dirty cuff, and by keeping his cuffs religiously clean or by changing them frequently he is reducing his chances of coming into intimate contact with a collection of bacteriological entities. The adoption of "dark goods" or of those materials which do not show dirt may therefore be regarded as a retrograde step, for it is obvious that such materials must get soiled just as much as do those which easily show the defilement. They, however, are not so frequently cleansed because there is no offence to the eye even after several days' wear and thus dirt is allowed to accumulate. When a man finds it convenient to wear coloured shirts and cuffs he means in reality that he can carry dirt for a little longer without giving offence than if he wore a spotlessly white material, or at all events a material which readily exhibits the smear of dirt or grease. The washing bill is, of course, reduced and the terrors diminished of the disintegrating process which is involved in an oft-repeated visit to the laundry. Lastly, it may be mentioned that from the point of view of hygienic demand the coloured handkerchief is an abomination when its colour is merely adopted in order to avoid frequent washing.

IS BERI-BERI IDENTICAL WITH EPIDEMIC DROPSY?

Dr. T. Frederick Pearse, the health officer of Calcutta, has lately brought forward weighty evidence in support of the theory that epidemic dropsy is identical with beri-beri. The former disease was observed first in the year 1877 in the southern suburbs of Calcutta, and appeared at intervals up to the year 1880, new localities being attacked with each recrudescence. 20 years then elapsed before the next outbreak occurred. The disease was at first thought to be of the same nature as beri-beri but was subsequently held to be distinct from it. Dr. Pearse has recently stated his views that the first impression of the nature of the disease is correct. He shows that the combination of symptoms in the two complaints is very similar. The greater or less œdema, especially in the shins, the hyperæsthesia and deep-seated pain in the legs, the cardiac symptoms, and the mode of death are common to both. The dropsy is shown in the same special and characteristic manner even to effusion in the pleural and pericardial sacs; also the nervous phenomena, if of less degree in epidemic dropsy, are identical in character—viz., those of peripheral neuritis. The conditions found post mortem are, although in no way characteristic of either disease, yet similar in both. As Dr. Pearse points out, the combination of œdema with symptoms pointing to peripheral neuritis with "rheumatic"-like pains and with disordered heart action, is only known in these two diseases. All the symptoms in the two diseases are similar in character, if not always in degree, and cases occur in outbreaks of each disease which are indistinguishable the one from the other. Finally, death is brought about in a similar manner, sometimes suddenly and sometimes slowly, by nervous disturbance of the heart's action. Reasoning on the above similarity in the course of the two affections, Dr. Pearse states his opinion to be that we have to look to some specific microbe as the cause of both. He certainly makes out a strong case in favour of his idea, as there are certain cardinal symptoms present in both affections—namely, the deep-seated pain and distinct tenderness of the calves, the great muscular weakness without absolute paralysis, the cardiac troubles as shown by shortness of breath, palpitation, reduplication of sounds, rapid and irregular pulse, and varying murmurs. Opponents of this view have pointed out that the knee reflex is lost in beri-beri but not in epidemic dropsy. This, however, is not universally true; in the recent outbreak

at Calcutta of the latter disease the knee-jerk was either distinctly impaired or lost. Other writers, again, draw attention to the absence in beri-beri of the anæmia occurring in epidemic dropsy, but as Dr. Pearse points out, the blood conditions have not yet been sufficiently demonstrated to lay down any definite distinction between these two classes of cases.

THE STATUES ON THE NEW PREMISES OF THE BRITISH MEDICAL ASSOCIATION.

AT a meeting of the Council of the British Medical Association held on July 1st it was resolved "That, having carefully considered the objections raised and the many favourable expressions of opinion by eminent authorities on Art as to the statuary on the new premises, the Council instruct the architect to proceed with the work." We congratulate the Council on this decision. We fear that motives of advertisement may lead to some continuance of the so-called purity campaign, but the Council are so solidly backed by artistic opinion in the course which they are pursuing that they will not be much worried by such tactics.

THE ENTENTE CORDIALE MÉDICALE.

A NUMBER of the members of the Society of French Medical Practitioners who have been attending their recently concluded annual congress at Lille arrived on a visit to London upon Tuesday evening last. They are under the leadership of Professor Ambrose Monprofit, the distinguished surgeon of Angers, who was President of the French Surgical Congress of last year. The number of delegates and their wives who are visiting us is 344. This visit was arranged at very short notice and is not to be confused with that which is shortly to be made to London by another French medical party under the auspices of the "Voyages d'Études Médicales," and which we have already announced. In connexion with this latter visit Professor Landouzy, the Doyen of the Paris Faculty of Medicine, has promised to give a lecture in his own language at the rooms of the Royal Society of Medicine, 20, Hanover-square, at 5 P.M., on Tuesday, July 14th, upon Some French Health Resorts. Professor Landouzy has a great reputation amongst French medical orators and it is to be hoped that a large gathering of his English *confrères* will assemble to welcome him.

THE RELATION OF THE MEDICAL OFFICER OF HEALTH TO THE FEVER HOSPITAL.

THERE is a certain amount of difference of opinion amongst sanitary authorities as to what should be the precise position of the medical officer of health in connexion with the local isolation hospital, but it is, we think, very generally conceded that where practicable he should act as the medical officer, and where owing to the size of the hospital or the size of the district such a course is impracticable he should, nevertheless, exercise a general superintendence over the institution. As, however, will be seen by the account which we give elsewhere of a meeting of the Midland branch of the Incorporated Society of Medical Officers of Health, the Bilston urban district council has terminated, apparently in a very abrupt manner, the direct connexion of its medical officer of health, Dr. T. Ridley Bailey, with the isolation hospital. It is difficult to determine from the somewhat meagre account of the proceedings which has reached us what were the precise reasons for this remarkable line of action, more especially as there would appear to be no ground for complaint as to the manner in which Dr. Bailey has hitherto performed the duties appertaining to his office. We must confess that in so far as our own information goes we see no sufficient reason for the step which has been taken. Bilston has only a population of some 25,000 and doubtless Dr. Bailey is well able to devote the necessary time to his hospital duties. Moreover, we cannot but feel that a step such as this must have the undesirable effect of prejudicing the public against the medical officer of health, and having regard to the seriousness of such an apparently unjustifiable step as this it would, we think, be well if the Local Government Board were asked to hold a public inquiry into the matter through the agency of one of its medical inspectors. The local branch of the Society of Medical Officers of Health has unanimously passed a resolution strongly condemning the step taken by the district council and expressing the opinion that in the circumstances no medical man of any standing will be found to accept the vacant position. It is therefore clearly the duty of any self-respecting practitioner to communicate with the local branch of the society in question before applying for the post. Probably, however, a Local Government Board inquiry would be the best means of ascertaining all the facts and merits of the case.

THE TREATMENT OF TUBERCULOUS DISEASE BY TUBERCULIN.

WE have received a copy of a reprint of a paper published in the *Zeitschrift für Tuberculose*, Band XII., Heft 3, p. 216, 1908, by the late Dr. Augustus C. Kinney of Astoria, Oregon, U.S.A., on "Additional Observations of Remarkable Results from the Use of Immunity Treatment in Tuberculosis." The pamphlet is in substance a plea for the use of smaller doses of tuberculin. Dr. Kinney employed the watery extract of tubercle bacilli of van Rock and the antiphthisin of Klebs. He recommended injections once a month and later once in three months. He also employed the old tuberculin, which is sold under the name of tuberculinum Kochii. At first he used doses of 1/20th of a milligramme but subsequently he reduced them to 1/500th of a milligramme. The paper contains brief details of cases treated by these methods. They appear to be for the most part cases of advanced disease of the lungs and other organs. It is claimed that good results were obtained in a majority of these, excluding cases with mixed infections, though it is admitted that many cases were liable to relapse after recovery. It is therefore difficult, in view of the absence of details as to the number of cases treated and the duration of the beneficial effects obtained, to appraise properly the value of Dr. Kinney's results, but his views as to the advantage of smaller doses are in accord with those advocated by Sir A. E. Wright and the general tendency is nowadays in favour of even smaller doses than those recommended by Dr. Kinney.

CANCER OF THE WOMB.

AT the request of the Central Midwives Board Dr. F. H. Champneys has, as we announced last week, drawn up a circular letter for the information of certified midwives in which is urged how extremely important it is that any woman who is suffering from symptoms suggesting the onset of cancer of the uterus should seek medical advice at once. In the circular great stress is laid on the fact that no time should be lost in such cases, and on the further fact that the change of life should not be accompanied by floodings, irregular bleedings, or irregular discharge of any kind from the womb. The chief complaint of all surgeons is that they see cancer cases too late because the patient has ignored symptoms which may have been present for some weeks or even months. The remedy for this unfortunate state of things is to be found in the better education of women

with regard to the great importance of seeking medical advice when any such symptoms are present. Unhappily it is usually the neglect of the patient to take heed of what only too often she regards as a discharge of no moment that prevents her medical attendant from having an opportunity of recognising the presence of cancer of the uterus sufficiently early to enable it to be removed with any great prospect of success. We are glad to see that the Central Midwives Board is taking the matter up, as it is only in some such manner that the great mass of women can become instructed in this most vitally important matter. The results in Germany of an active campaign started by Professor Winter are extremely encouraging and the percentage rate of operability of these cases has steadily increased during the last five years and is still rising. The preparation and issue of such a leaflet have been suggested by many gynæcologists in this country and we do not think that any harm is likely to result from it. Possibly the information which it contains may lead some women to think that they have cancer when such is not the case, but if it is successful in causing any woman with suspicious symptoms to seek medical advice at once it will result undoubtedly in increasing the number of cases in which a radical operation is possible and so will procure the saving of many lives.

THE ROYAL DENTAL HOSPITAL OF LONDON.

Sir Frederick Treves, Bart., G.C.V.O., C.B., occupied the chair on the occasion of the jubilee festival dinner of the Royal Dental Hospital of London which was held at the Hotel Cecil on June 25th. In proposing the toast of "The Hospital and School" the chairman made a powerful appeal to those gathered around him for a strong and united effort to place the funds of the hospital on a satisfactory basis. He pointed out the peculiar position occupied by the hospital in regard to public opinion. The hospital, he thought, was not appreciated as it ought to be and some people pretended that they could not understand why £47,000 should be required for a dental hospital when teeth could be pulled out in the street. Dental operations very commonly formed the basis of caricature and few seemed to realise that dentistry had developed along lines which involved many marvels of applied science. He had visited the hospital on more than one occasion and with the result always that he came away with a feeling of admiration for the skill of the staff and for the splendid equipment and accommodation which the hospital afforded to suffering humanity. England, he added, could be proud of its magnificent charity to hospitals, and beneath that charity there was a spring of sentiment which, however, and unfortunately, did not touch a dental hospital where there were no beds and no patients to whom kindly gifts could be brought. Surgeon-General Sir Alfred H. Keogh, in replying to the toast of "The Imperial Forces," referred to the great progress which was being made in regard to dental treatment in the army, and said that for years past they had rejected as unfit for the army a number of young men who but for dental defects would have been capable of service. The subject was receiving the attention also of our naval authorities, to which allusion was made by Inspector-General James Porter in his reply to the same toast. It was announced by the chairman on giving the toast of "The King," that His Majesty had headed the subscription list with £50, and during the evening the donations promised amounted to £3000. The toast of "The Visitors" was proposed by Sir Richard Douglas Powell and was responded to by Sir James Crichton-Browne. An excellent programme of music by the "Westminster Singers" added to the enjoyment of the evening. The proceedings were altogether successful and great credit is due to those who shared the work of organisation.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

King Edward's Hospital Fund has recently issued a circular to the hospitals of London reminding them of the resolution sanctioned by the General Council in 1903 to the effect—

> That in future any new hospital or those reconstructing or extending to a considerable extent, within the area dealt with by the Fund, be requested before taking definite action to submit their proposals to the Fund.

The circular proceeds to set forth the full purport and intention of this resolution and among other points states that the information submitted to the Fund should include the following:—

(1) Reasons and considerations which have led to the formulation of the proposals.
(2) The nature of the proposals, with any outline sketch which may be necessary in order to make clear the main features of the site and buildings, but not detailed architects' plans unless specially asked for.
(3) The amount of accommodation proposed to be provided, or other increase or modification of the work of the institution; compared so far as may be necessary with particulars of the present work.
(4) The rental and tenure of the site or buildings.
(5) The estimated cost of the proposals.
(6) The resources from which it is anticipated the cost may be met.
(7) The prospect of the provision for the increase (if any) in the cost of maintenance.
(8) The approximate dates of the beginning and completion of the work.

Similar information is requested from the promoters of new hospitals who might contemplate an application to the Fund in the future. But it is pointed out that the Fund does not assist in the foundation of new hospitals or entertain applications for grants from hospitals that have not been in existence in a properly constituted form for a period of at least three years. The King Edward's Hospital Fund is an institution which exists for objects which can only excite admiration, and its administration in the main has proceeded on sound and judicial lines. It may concern itself perfectly legitimately with checking wild and reckless schemes for extending hospital premises which take no heed of the probabilities of the income for their maintenance being found; but there are various ways of exercising such control and the tone of this circular may, perhaps, be regarded as unnecessarily peremptory.

TREATMENT OF NEURALGIA BY SUBCUTANEOUS INJECTION OF CHLOROFORM.

IN the *New York Medical Journal* of June 13th Dr. S. O. Goldan has reported very successful results in the treatment of neuralgia from an old method which has fallen into disuse—the subcutaneous injection of chloroform. He does not recommend it in acute neuralgia, in which medical treatment is usually effective, but in those chronic cases in which all palliative methods have failed and the patient is willing to submit to anything. From two to ten minims of pure chloroform are injected into the painful area with an ordinary hypodermic syringe. Considerable swelling and redness are produced which may seem alarming, and some patients will not submit to the treatment. Dr. Goldan has treated seven cases of facial neuralgia; in three the supraorbital nerve was affected, in one the infraorbital nerve, and in three the infraorbital and maxillary branches combined. The treatment instantly caused almost complete cessation of the pain. One patient had been treated previously by injections of osmic acid. From two to five drops of chloroform were injected in five or six places about one-half to one inch apart on the painful area. Three cases of brachial neuralgia were treated successfully by fairly deep as well as superficial injections. In seven cases of intercostal neuralgia immediate relief was given. The injections were made into the skin as well as deeply between the ribs. Five cases of sciatica were treated; in three repeated injections were

required but the patients were completely cured. One patient, though benefited, refused further injections. One patient was not benefited and, indeed, was temporarily made worse, but in this case there was not merely sciatica but also phlebitis involving both limbs as well as the veins of the pelvis. The sciatica was greatly improved as a result of improvement of the phlebitis, which took place under treatment with the waters of Bagnoles de l'Orne, France. Dr. Goldan has also obtained good results from this treatment in lumbago. Patients have come to him almost creeping and within half an hour have walked away free from pain and erect. He ascribes the benefit to the inflammatory reaction produced by chloroform, which determines a new supply of blood to the nerve filaments of the painful part. Neuralgia, it may be remembered, has been described as the cry of the nerves for blood.

NATIONAL TUBERCULOSIS CONFERENCE AND EXHIBITION.

WE may remind our readers that a National Tuberculosis Conference and Exhibition will be held in the Caxton Hall, London, during November next. The conference is not a medical one but a national one, in accordance with its title, and its object is to arouse all sections of the community to the importance of securing more adequate means for the prevention and treatment of tuberculosis in all its forms. Consumption is a national scourge, calling for effective organisation and for the practical coöperation of all scientific, educational, and humanitarian forces which make for human betterment and racial progress. As is well known to all our readers, a series of very successful conferences and exhibitions has been held recently in different parts of Ireland under Viceregal patronage. These meetings have excited wide interest and greatly stimulated the anti-tuberculosis movement in Ireland, and it has been considered highly desirable that a thoroughly representative conference should be held this year in the capital of the British Empire, and the formation of a scientific exhibition is part of the scheme. The enterprise should appeal to all interested in and working for the physical improvement of the nation. It is arranged already that during the conference authorities from different parts of the Empire as well as continental leaders in the anti-tuberculosis movement shall take part in the proceedings, and arrangements will be made for country and foreign visitors to visit the chief sanatoriums and special hospitals for consumptives and other sufferers from tuberculosis situated in and near London. No efforts will be spared to interest all sections of the community in a consideration of the fundamental principles and scientific procedures on which the conduct of a successful campaign against tuberculosis must depend. It is hoped that all in any way interested in the objects and work thus outlined will communicate with the secretaries to the organising committee, Mr. Frederick V. Fisher and Mr. Ernest Schofield, at the offices of the Medical Society of London, 11, Chandos-street, Cavendish-square, London, W., from whom all particulars can be obtained.

THE annual general meeting of the Coal Smoke Abatement Society will take place to-day (Friday) at 3 P.M., at the Royal United Service Institution, Whitehall, S.W. The President, Sir William Richmond, K.C.B., R.A., will occupy the chair.

EXETER SEWAGE WORKS.—A Local Government Board inquiry was held at Exeter on June 23rd into the application of the Exeter city council for sanction to borrow £1272 for improvements at the Exeter sewage and disposal works. It will be remembered that Exeter was a pioneer town in the adoption of the biological method of sewage disposal.

MOTORING NOTES.

BY C. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

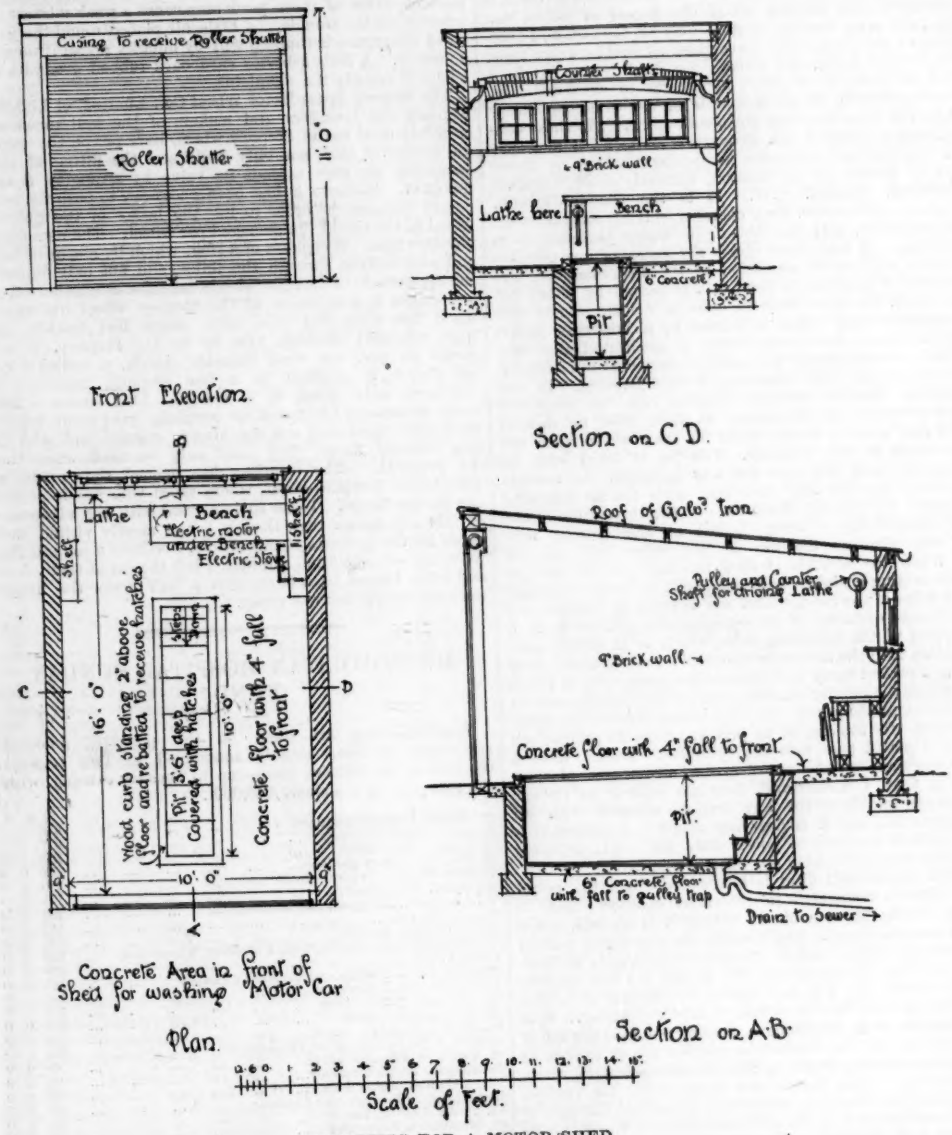
IT is undoubtedly true that one's first car is usually, and rightly, a small one; mine, bought some ten years ago, was a 3-h.p. Benz. Unfortunately many, like myself, I think, do not realise that later a larger car may be, and probably will be, bought, so at the beginning a small motor-house is put up and then when a new car comes there is the worry of altering it. And that is not only a worry but also an expense. I have been through it, so I speak from experience. So if I may advise the embryo motorist I would suggest, when you invest in your first car certainly let it be a small one but do not be too parsimonious over its house. A good many medical friends have asked me about the kind of shed which they should erect for their automobile. Well, I do not think that a medico is likely to indulge in any machine longer than 13 feet or wider than 5 feet 3 inches, or higher than 7 feet, so a building that will accommodate one of these dimensions should do. Of course, wooden sheds which are moveable and come in segments can be purchased; still the insurance companies are rather shy about having timber structures near one's house, so where a man is in practice and likely to remain for some time I strongly advise a permanent brick building. The accompanying plans are based on how I should build my motor-house if I had my time over again, and taking the cube at 6*d*. such a shed as I propose to outline could be put up for £40, and, what is more, there would be room to carry out repairs in it, and, of course, if electricity be available it could be lighted and heated in that way. Electricity is, I understand, sold at a very low rate for heating, and if it be used the accumulators could, by means of a suitable switch, be charged while the lamps or fire are on without extra cost, and accumulators do have a longer life if they are kept fully charged and are not allowed to run down. Of course, in modern cars magneto ignition is the rule; still, a dual one is especially desirable for a medical man and a high tension coil and accumulator should be the stand by, in addition to the high or low tension magneto. But to return to the house. I suggest one 16 to 18 feet long, 10 to 12 feet wide, and 8 feet high at one end and 10 feet at the other; the roof will thus have a good fall and can be made of corrugated galvanised iron. Steel revolving shutters make an excellent door and have the advantage of not occupying much room; sliding doors can also be employed or ordinary folding ones, but the revolving shutters seem to me the most ideal. I believe, as it is a mere shelter house, that the surveyor will allow a 9-inch wall, and those who do not mind expense can, of course, use glazed bricks (they look much better), but unfaced whitewashed ones will answer. A nice refinement is to have a coved brick at the junction of the wall with the floor and to have all angles rounded, as is done in modern operating theatres. The width I give will permit of getting round the car and allow of tyres being changed in the shed, springs seen to, &c.

A pit is most useful and I always regret that when I built my shed I did not make mine as long as I might have. It should be in the centre of the floor, 3 feet 6 inches wide, and at least 10 feet long; the floor of the pit and house should be concreted or covered with flags of artificial stone resting on concrete and should have a slight fall, about a quarter of an inch to the foot, and the pit should be drained, if possible into the manhole that leads to the sewer, the usual S-trap being interposed; the fall of the floor of the shed itself will permit of its drain being outside and in front of the shed door. Where it is not convenient to run the pit drain into a sewer a hole deeper than the pit can be dug outside (at the back) of the shed, filled in with broken bottles and bricks, and a pipe from the pit can open into it at a lower level than the floor of the pit. The pit should be surrounded by a curb, standing up some 2 inches and covered by hatches, each about 2 feet wide, so in working under the car that portion of the pit which is under the actual work may be open and the rest kept covered. A convenient depth for a pit is from 3 feet 6 inches to 4 feet, and steps can be made at one end so as to enter with comfort, though, as a rule, mere iron rings are fixed in the wall for purposes of access. It is handy to fit in the walls of the pit little recesses all the way round, so that when working

they answer as shelves on which to place the tools that may be needed.

At the further end of the shed a window almost the width of the shed can be made, some 6 feet above the ground; four small windows, as shown, will probably be cheaper than one large one. At the back above the windows provision should be made for a countershaft, to have bearings on each side of the shed, and these bearings should have little tin trays hanging under them so as to prevent oil dripping down and making a mess on the floor, which in addition is unhealthy for the tyres. The countershaft can be run by a small electric motor, which can thus drive a small Drummond lathe, a most useful aid to small repairs, and the working of which will, I am sure, prove a fascinating amusement as well as a great saving in the repair bill. The lathe can be placed at the left of the back of the shed, and on the right a bench should be made, one 4 feet long and 3 feet high and 18 inches wide, with the top of inch material, will do, 2-inch square stuff being used for the supports. To the table a good-sized vice should be fixed. Parkinson's Perfect No. 7 or 8 with a width of jaw of some 4 to 5 inches is an excellent one. Under the bench the electric motor can be put and over the bench a rack for tools and a shelf for spares.

Unless the water in the radiators is run out at night time the shed must in winter be warmed; an electric radiator answers well and is inexpensive to run, though the initial cost is high. If electricity is not available, then hot-water pipes, with the stove outside the shed, is the best method of heating. It is important that the stove should be quite away from the shed, as petrol may always escape or leak, and of course the vapour is most explosive. Fletchers make a little stove well fitted to keep water-pipes hot. Electricity is the ideal artificial light; failing this lamps must be fixed outside the house and their light admitted through windows. In front of the shed it is desirable, if possible, to have a yard



DRAWING FOR A MOTOR SHED.

paved and drained where the car can be washed. Petrol should not be kept in the shed but in two-gallon cans at some distance off. Personally, I do not keep more than what is in the car's tank, which my lad fills up while on my round. Spare tyres and tubes are best in a dark cupboard, and they are all the better for a little damp.

A good many motorists complain that their carburettors leave much to be desired, especially in regard to petrol consumption. Frequently this is more the fault of the car owner than the vapour-producing and mixing apparatus. A carburettor with a punctured float will often work if there is an overflow hole through which the excess of petrol can escape, but even then the mixture may be too rich and overheating of the engine thus takes place as well as extra trade for the petrol seller, and though the fluid is now but 1s. a gallon still there is no object in getting an extra quantity, for the sprinkling of the ground is of use to no one except perhaps the man who sells petroleum spirit. For those contemplating a change I can strongly recommend a new type of a mechanical automatic carburettor which is introduced by Messrs. H. M. Hobson, Limited, of 29, Vauxhall Bridge-road, London, S.W. It is the Claudel-Hobson. The whole carburettor, float chamber, mixing compartment, petrol channels, and the hot-air or water jacketing is in one casting. A fine sieve clears the petrol of any possible impurities prior to its admission to the float chamber, and on its further progress to the jet it is heated by either hot water or air, the latter from the exhaust. Some friends who have a carburettor which is heated by a hot-water jacket tell me in winter (their coach-house is not heated) that they have had trouble through the water in the jacket not draining all away and the part remaining behind freezing. In this carburettor exhaust pressure heating can be employed instead of water—an advantage to those with non-heated stables and who in winter drain off their water when the thermometer is near freezing. The jet is fitted with an air injector, and this and the way in which the throttle and control are cut and combined with the air regulator constitute the special features of the invention. The jet is covered by a tube, drilled at the bottom with holes and also at the top at the same level as the jet. When the throttle is shut the top part of the jet is in the mixing chamber, and the petrol is sucked through the top holes of the tube, whilst the suction is relieved by a proportionate quantity of air entering through the holes of the bottom of the jacketing tube, which is in direct communication with the atmosphere outside the regulator, thus insuring a perfect spray and an accurate proportion of petrol passing into the mixing chamber, whilst the throttle and air strangler combined are so cut that when opened—to whatever extent—for the engine to pick up, accurate proportions of air and petrol pass into the cylinders. Messrs. Hobson seem so certain of the petrol-saving advantages of their speciality that, I understand, they are willing to fit one of their carburettors for any owner afflicted with an extravagant one, and if it does not result in a considerable saving without any loss of power they will replace the old carburettor without making any charge whatever.

In most cars a small filter is introduced where the petrol supply pipe is connected to the float chamber, and as blockage of the jet is a bit of bother it is as well, where there is no such filter, to slip in under the pipe union a small gauze strainer washer and to recollect occasionally to clean it. A tool that should always be carried is a box spanner that will fit the jet; it is so annoying to diagnose a foreign body there and not be able to take it out for cleaning. It is seldom any good to introduce a bonnet pin into the top of the jet, for though the obstruction may be moved as soon as the engine starts it is drawn up into the narrower part, where it probably once more lodges and thus starves the engine. Occasionally the offending matter may be sucked through by putting some petrol into the cylinders through the compression taps and starting and racing the engine. Breakage of the petrol supply pipe is serious, and in addition to the loss of the petrol and its consequent ignoring of its proper destination, the engine, if it escapes near the hot exhaust pipe, may catch fire. A temporary road-side pipe repair can be carried out by cutting out the defective part and joining the divided ends by a bit of rubber tubing and affixing each end to the tube by a turn of copper wire. A cracked pipe can be made to answer for a time by binding it round and round with a soaped bandage and twisting over this some adhesive strapping. I did this once with some ordinary antiseptic adhesive plaster and it carried me for a whole morning's round. Occasionally the diagnosis of erratic running of the engine is a source of perplexity. Ignition causes being eliminated, the thought of "too weak a mixture" suggests itself, but the jet is clear, the petrol supply-pipe is found to be free. Then it is as well to inspect the joints where the induction pipe joins the mixing chamber or where it is attached to the inlet valve dome; a leaky joint at either of these parts may cause a weak mixture and account for the trouble. A little oil placed round the joints when the engine is running will by bubbles reveal if they are defective. A little asbestos cardboard rubbed over with red lead will remedy the complaint.

The Stepney Spare Motor Wheel Co., Limited, of Llanelly, who are the inventors and makers of the well-known and certainly most useful Stepney wheel, have put on the market an accessory that not only facilitates the fitting of their speciality but also extends its value by arranging it as a non-skid. Hitherto it has been necessary to push the outer covers inwards in order to fix the hooks of the Stepney wheel to the rim of the damaged car wheel. The new flange obviates this. It consists of a ring, which by means of bolts and nuts is fixed through the felloe, and not only improves the appearance of the car wheels but also strengthens them and makes it possible to fit the Stepney wheel not only in much less time but also with much less trouble, and if a non-skid studded tyre be on the Stepney, if rain comes on and the road becomes skiddy, a non-skid can be placed in position in a few seconds, and can be employed only when it is needed. This seems a very great advantage, for non-skids certainly wear more rapidly than plain tyres and are not always wanted, and with the new Stepney flange they need only be used when they are required. The company has opened show-rooms at 168, Great Portland-street, where those who are interested can see the flange. I was so impressed with the advantages of this new flange that, though I had merely visited their depôt for the purposes of this article, I ordered a set and they were very quickly fitted—in fact, I left the car at their place, and when I came back in one and a half hours the flanges were on and the car was ready.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following are some of the principal amounts, additional to those already announced in THE LANCET, received at the Mansion House up to Tuesday evening, when the sum paid in was about £20,000 :—

	£	s.	d.
St. Mary's, Bryanston-square	418	0	0
St. Paul's, Onslow-square	277	0	0
St. Peter's, Vere-street	263	0	0
St. Peter's, Cranley-gardens	252	0	0
Theistic Church, Swallow-street	210	0	0
All Souls', Hampstead	171	0	0
Union Chapel, Islington, and Mission	160	0	0
Temple Church	137	0	0
Christ Church, Mayfair	134	0	0
Emmanuel Church and St. Luke's Mission, Wimbledon	133	0	0
City Temple	129	0	0
Bromley Parish Church and St. Mark's Chapel	120	0	0
Christ Church, Chislehurst	118	0	0
St. Andrew's, Leytonstone	108	0	0
St. John's, Paddington	108	0	0
St. Mark's, Reigate	108	0	0
Church of the Annunciation, Chislehurst	100	0	0
St. Paul's, Westbourne-grove	96	0	0
Beckenham Parish Church	91	0	0
Greek Church, Aghia Sofia	96	0	0
Regent-square Presbyterian Church	84	0	0
St. Paul's Mission, Anerley	83	0	0
St. Matthew's, Bayswater	81	0	0
St. Anne's, Wandsworth	77	0	0
Immanuel Church, Streatham	71	0	0
St. Michael's, Blackheath Park	71	0	0
St. John's, Putney	70	0	0
St. James's, Kidbrook	69	0	0
Holy Trinity, Eltham	64	0	0
St. Stephen's, Ealing	64	0	0
St. Mary's, Stoke Newington	62	0	0
Christ Church, Newgate-street	60	0	0
St. Saviour's, Ealing (part collection)	58	0	0
Bromley Congregational Church	54	0	0
Church of the Immaculate Conception, Farm-street	53	0	0
St. James's, West Hampstead	53	0	0
Gray's Inn Chapel	50	0	0

	£	s.	d.
Trinity Presbyterian Church, Hampstead	50	0	0
St. Augustine's, Kilburn	50	0	0
Church of the Ascension, Blackheath	48	0	0
Christ Church, Blackheath	47	0	0
St. Alban's, Holborn	47	0	0
Dulwich College Chapel	46	0	0
Grosvenor Chapel, South Audley-street	45	0	0
St. Magnus the Martyr, London Bridge	44	0	0
St. Stephen's, Westminster	43	0	0
St. Cuthbert's, West Hampstead	41	0	0
Christ Church, East Greenwich	40	0	0
St. Paul's, Camden-square	40	0	0
Chapel Royal, St. James's	39	0	0
St. Paul's, Harringay	39	0	0
St. Paul's, Wimbledon Park	39	0	0
West Wickham Parish Church	38	0	0
St. Michael's, Betchworth	36	0	0
St. Stephen's, Wandsworth	36	0	0
Central Hill Baptist Church, Norwood	35	0	0
St. George's, Campden Hill	33	0	0
St. Saviour's, Denmark Park	33	0	0
St. Mary Magdalen, Wandsworth Common	33	0	0
St. Luke's, Hornsey	32	0	0
St. Paul's, Forest Hill	31	0	0
St. James's, Notting Hill, and St. Gabriel's	31	0	0
Finchley Parish Church	31	0	0
All Saints', Friern Barnet	30	0	0
Christ Church and St. Andrew's, Southgate	30	0	0
Merton Parish Church	29	0	0
Mill Hill Parish Church	29	0	0
Parish Church and Chapels, Ilford	29	0	0
St. Peter's, Clapham	29	0	0
Church of the Holy Redeemer, Chelsea	27	0	0
St. James's, Garlickhithe	26	0	0
All Saints', Norfolk-square	25	0	0
St. Andrew's, Whitehall Park	25	0	0
St. George's, Tufnel Park	25	0	0
H. Dent Brocklehurst, Esq.	25	0	0
St. Peter's, Walton-on-the-Hill	25	0	0
Totteridge Parish Church	25	0	0
Christ Church, Woburn-square	24	0	0
Emmanuel Church, Northwood	24	0	0
St. Augustine's, Grove Park	24	0	0
St. Mary (Old Church), Stoke Newington	23	0	0
Christ Church, Wanstead	23	0	0
St. Matthew's, Redhill	23	0	0
Highgate Wesleyan Methodist Church	22	0	0
St. Luke's, West Norwood	22	0	0
St. Peter's, Hersham (moiety)	22	0	0
Keston Parish Church	21	0	0
Muswell Hill Presbyterian Church	21	0	0
St. Mary's, Putney	21	0	0
F. Aveline Aramayo, Esq.	20	0	0
Chapel of the Charterhouse	20	0	0
Holy Trinity, Dartford	20	0	0
St. Luke's, Reigate	20	0	0
St. Matthew's, Ealing Common	20	0	0
St. Jude's, Bethnal Green	13	0	0
St. Peter's Presbyterian Church, Upper Tooting	13	0	0
St. Stephen's, Hounslow	12	0	0
Wanstead Parish Church	12	0	0
Catholic Apostolic Church, Hampstead	11	0	0
St. Michael Royal, Cannon-street	11	0	0
Sunfielde Wesleyan Church, Blackheath	11	0	0
St. Benet's, Stepney	10	0	0
St. Jude's, Mildmay Park	10	0	0
St. Michael's, Wood Green	10	0	0

SOME ORIENTAL SUPERSTITIONS IN MATTERS OF THE HEALING ART.

AN interesting lecture delivered recently by Dr. David Sandler at the residence of the American Consul-General in Constantinople dealt with the Oriental superstitions which are met with constantly by medical men practising in the Near East and which frequently result in serious consequences to persons suffering from injury or disease who are "treated" by "magical" methods as the result of such beliefs. Dr. Sandler considers that the Oriental mind is so attracted by the supernatural that it is unable to widen the spiritual horizon and to look for natural and reasonable interpretations of material phenomena. It is a mind completely unable to grasp the orderly sequence of cause and effect which is the basis of all scientific conceptions. Untrained and uninitiated into such methods of rational associations, it pins its faith, oftentimes uncommonly strong and fierce in all its crude savagery, to primitive incongruities of belief and magical formulæ. It would almost seem that the more incongruous and incomprehensible a belief may be the more chance it has to lodge itself definitely in the Oriental mind as completely rational and worthy of the highest respect. Nowhere is this fact more clearly apparent than in matters of the healing art. Dr. Sandler gave a simple illustration. A stone strikes some part of the body of an Oriental and inflicts a wound. The train of ideas that this accident would produce in his mind would run something like this: The stone is the cause of pain, the cause of the wound. It is the principal origin of the trouble. But the essence of every origin is hidden, secret and therefore sacred. The stone becomes an awe-inspiring fetish. The wound is neglected. The fetish has to be propitiated. This simple illustration is borne out and supported by every-day experiences which medical men encounter in the East. Another instance may be derived from amongst the lower classes of the Greek population of Constantinople. A child falls and cuts his head. The first thought of the parent is to be sure not to wash and to bind up the wound, still less to call medical assistance, however grave the cut may turn out to be. This is always an after-thought, which very often comes so late that the help of a surgeon can prove of no use. The first thing the father or mother of the injured child thinks of doing is to pour over the shoulder upon the place of the accident a libation of wine or sugared water and to whisper, in performing this, some mysterious formula of incantation, an ancestral formula supposed to possess supernatural efficacy against every form of evil.

The Moslems are addicted to the queerest practices for purposes of healing or alleviating bodily pain. A Turk, for instance, in distress or suffering from some disease, however severe, knows of no better remedy than to fix a piece of his dress, torn off with true Oriental equanimity, to an iron bar of some saint's tomb, or to drink water from a tumbler into which he has previously put a sheet of paper with writings from the Koran. Sometimes he will take a jar, the interior of which has been written all over with strange formulæ and signs. He will then fill it with water, wait till these formulæ and signs have been thoroughly dissolved, and drink the singular solution with an absolute faith in its wonder-working efficacy. Sheltered by the sombre cypresses of the great Mahomedan cemetery at Scutari (the ancient Chrysopolis on the Asiatic coast of the Bosphorus) there stands in picturesque solitude the tomb of a horse. Every Friday afternoon Turkish mothers carry to that tomb their crippled children to be submitted by a select "khodja" (priest) to an extra-ordinary course of treatment. These children are dragged, with their diseased limbs dangling over the hillock, from one end of the tomb to the other and then back again in the same fashion. The occult influence emanating from this hillock is supposed to be an all-efficient panacea. It is not difficult to trace in this case the crude, imperfect association of ideas. The horse has long been considered an emblem of vigour, typifying, as Ruskin says, "the flow and force of life." Hence the belief of the Oriental, inherited, no doubt, from the Greeks, in the all-conquering virtue and influence of occult and mysterious effluvia which are supposed to emanate constantly from a horse's tomb.

The wearing of a necklace of blue beads or of garlic as a potent means of keeping away disease or of warding off the evil eye is quite a universal matter of sincere belief in the whole of Turkey. This superstition is shared, as is well known, by the lower classes of many a country in civilised Western Europe. There, however, it is not so universal and flagrant as in the Orient. There is scarcely a house in the Moslem, Greek, and Armenian districts of the population of Constantinople which has not hanging above its entrance door a collection of garlic, and scarcely a beast of toil which has not attached to some part of it a string of blue beads. Among the uneducated it is impossible to find an individual who does not pin his absolute faith to the all-healing power of such charms, especially of blue beads, which are supposed to be an unfailing panacea against every possible ill. Less general is the belief in the East in the baleful influence of the planets Saturn and Mars upon the constitution of the human body, upon its four cardinal humours, blood, phlegm, yellow bile, and black bile. These planets are considered by some Orientals, especially in the far South, as the unmistakeable causes of all sorts of ailments. Woe is unto him who begins any work when Saturn or Mars is in the ascendant.

Among the terrible practices by means of which diseases, such as pneumonia or diphtheria, are believed by the Oriental to yield unvaryingly is the application of a red-hot iron to the abdomen of the bed-ridden patient. By this means "the beastly influence," which is supposed to have settled in the diseased person, is expected to be expelled. On one or two occasions Dr. Sandler has seen traces of this barbarous mode of

treatment on the bodies of helpless children of a very tender age. Should the unhappy martyr be brought by such ruthless artifice to the brink of death no better remedy is known of than to send speedily for a priest who is expected, for a consideration, of course, to cure the patient by mysterious and meaningless invocations.

Thaumaturgy has a potent influence with the Oriental's disposition; he therefore despises simplicity and gives credit and preference to the mysterious and the complex. Give him a colourless and tasteless medicine and his faith in it, as well as his confidence in the medical man, will at once be shaken. "It is too plain, too artless to be of any use," he will think. But let the prescription be several inches long; let it include a dozen, or even more, of different substances; let these substances be as rare as possible, as bitter or acrid as possible, or even as disgusting as possible, and the Oriental will take them with fullest confidence and think wonders of the physician's skill and learning. He has, in fact, the same notions of the practice of medicine as were held universally by Europeans in the Middle Ages, lingered on amongst the educated classes into the seventeenth and even the eighteenth centuries, and in an attenuated and shamefaced form have not yet entirely died out, as witness the ancient practice of wearing amulets which was revived in this country some few years ago for the relief of rheumatism.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest towns 8820 births and 3664 deaths were registered during the week ending June 27th. The annual rate of mortality in these towns, which had declined in the eight preceding weeks from 15·7 to 11·6 per 1000, rose again to 11·8 in the week under notice. During the 13 weeks of the past quarter the annual death-rate in these towns averaged only 13·8 per 1000, and in London during the same period the rate did not exceed 13·3. The lowest annual death-rates in the 76 towns during the week under notice were 5·2 in Walthamstow, 6·1 in Handsworth and in Newport (Mon.), and 6·6 in Tynemouth; the rates in the other towns ranged upwards, however, to 19·8 in Wigan, 20·6 in St. Helens, 21·6 in Stockton-on-Tees, and 24·5 in Hanley. The death-rate in London during the week did not exceed 10·8. The 3664 deaths in the 76 towns during the week showed an increase of but 42 upon the low number in the previous week, and included but 296 deaths which were referred to the principal epidemic diseases, a lower number than in any previous week of this year; of these 296 deaths, 82 resulted from measles, 73 from whooping-cough, 70 from diarrhœa, 35 from diphtheria, 21 from scarlet fever, and 15 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases last week were equal to a mean annual rate of but 1·0 per 1000, corresponding with the low rate from the same diseases in each of the two preceding weeks; the rate from these diseases in London was again so low as 0·8. No death from any of these epidemic diseases was registered last week in Oldham, Walthamstow, Plymouth, Halifax, and in 12 other smaller towns; the annual death-rate from these diseases ranged upwards, however, to 3·1 in Hanley and in Bootle, 3·3 in East Ham, 4·1 in Rotherham, and 4·2 in Barrow-in-Furness. The fatal cases of measles in the 76 towns, which had been 89 and 86 in the two preceding weeks, further declined to 82 in the week under notice, but caused death-rates equal to 1·3 in West Ham and in Preston and 1·5 in Stockport. The 73 deaths from whooping-cough showed an increase of five upon the number in the previous week and caused the highest death-rates, 1·7 in Barrow-in-Furness, 2·0 in Merthyr-Tydfil, 2·3 in Hanley, and 3·3 in Rotherham. The 70 deaths attributed to diarrhœa showed a further slight increase upon recent weekly numbers, and caused the highest death-rates, 1·5 in Bootle and in Blackburn. The 35 fatal cases of diphtheria corresponded with the number in the previous week and caused death-rates equal to 1·0 in Sunderland and 2·2 in East Ham. The 21 deaths from scarlet fever, including seven in London and four in Liverpool, were fewer than in any previous week of this year. The 15 deaths referred to "fever" corresponded with the number in the previous week, and again included three in Norwich, equal to an annual rate of 1·3 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had declined in the eight preceding weeks from 2938 to 2565, had further fallen to 2553 on June 27th; 365 new cases of this disease were, however, admitted to these hospitals during the week under notice, against 289 and 310 in the two preceding weeks. The deaths in London referred to pneumonia and to other diseases of the respiratory organs, which had steadily declined in the nine preceding weeks from 301 to 115, further fell to 107 in the week under notice, and were 44 below the corrected number in the corresponding week of the five years 1903-07. Eight deaths in London were again directly referred to influenza during the week. The causes of 33, or 0·9 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in London, Leeds, West Ham, Bradford, Newcastle-on-Tyne, Hull, and in 52 other smaller towns; eight uncertified causes of death were, however, registered during the week in Liverpool, four in Birmingham, and three of the 19 deaths in Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 13·2 and 14·7 per 1000 in the two preceding weeks, declined again to 14·5 in the week ending June 27th. During the 13 weeks of the past quarter the annual death-rate in these eight towns averaged 16·4 per 1000, and exceeded by no less than 2·6 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates during the week under notice ranged from 9·9 and 11·1 in Leith and Aberdeen to 17·8 in Perth and 19·2 in Dundee. The 510 deaths in the eight towns showed a decline of seven from the number in the previous week, and included 40 which were referred to the principal epidemic diseases, against 42 and 51 in the two preceding weeks; of these 40 deaths, 16 resulted from diarrhœa, 12 from whooping-cough, seven from measles, four from "fever," and one from scarlet fever, but not one either from diphtheria or small-pox. These 40 deaths were equal to an annual rate of 1·1 per 1000, the mean rate from the same diseases in the 76 English towns during the same week being 1·0. The 16 deaths attributed to diarrhœa exceeded the number in any recent week, and included six in Glasgow, three in Dundee and in Greenock, and two in Edinburgh. The fatal cases of whooping-cough, which had been 11 and 20 in the two previous weeks, declined again to 12 in the week under notice; four were returned in Aberdeen and three both in Dundee and in Glasgow. The seven deaths from measles were considerably below the numbers in the two preceding weeks, but included four in Glasgow and two in Edinburgh. The fatal cases of "fever," which had been two and five in the two previous weeks, declined again to four in the week under notice; they included two of cerebro-spinal meningitis and one of enteric fever in Glasgow, and a fatal case of cerebro-spinal meningitis in Edinburgh. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 51 and 73 in the two preceding weeks, declined again to 67 in the week under notice, and were seven below the number returned in these towns in the corresponding week of last year. The causes of 13, or 2·5 per cent., of the deaths registered in the eight towns during the week were not stated or not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 19·2 and 16·5 per 1000 in the two preceding weeks, further declined to 16·0 in the week ending June 27th. During the 13 weeks of the past quarter the death-rate in Dublin averaged 20·4 per 1000; the mean rate during the same period did not exceed 13·8 in London and 15·5 in Edinburgh. The 160 deaths of Dublin residents registered in the week under notice showed a further decline of four from the numbers returned in the two preceding weeks, and included 11 which were referred to the principal

epidemic diseases, against six and 14 in the two previous weeks. These 11 deaths were equal to an annual rate of 1·5 per 1000, the rate during the week from the same diseases being only 1·0 in London and 0·9 in Edinburgh. Of the 11 deaths from these epidemic diseases in Dublin, four resulted from measles, four from diarrhœa, two from diphtheria, and one from "fever," but not one from whooping-cough, scarlet fever, or small-pox. The fatal cases of measles showed a decline of one, while the deaths attributed to diarrhœa corresponded with the number in the previous week. The 121 deaths from all causes in the city during the week included 25 of infants under one year of age and 42 of persons aged upwards of 60 years; the deaths of elderly persons showed a considerable increase upon the low numbers in recent weeks. Five inquest cases and three deaths from violence were registered, and 61, or 50·4 per cent., of the deaths registered during the week occurred in public institutions. The causes of three, or 2·4 per cent., of the deaths registered during the week were not certified. The causes of all the 991 deaths registered in London during the week were duly certified, while in Edinburgh the proportion of uncertified causes of death was equal to 6·2 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeons: F. J. Burns to the *Royal Arthur*, additional, for the *Edgar*, temporarily, for manœuvres; B. F. Parish to the *Europa*, additional, for the *Sirius*, temporarily, for manœuvres; and C. G. Matthew to the *Fisgard*. Staff-Surgeons: J. Stoddart, to the *Europa* for the *Æolus*, while on special service at Avonmouth; R. M. Richards to the *Latona*, temporarily, for manœuvres; M. J. Smith to the *Gibraltar;* and E. S. Reid, lent to Deptford Victualling Yard, temporarily. Surgeons: W. N. L. Cherry to the *Gibraltar;* J. G. Peebles to the Royal Marine Infirmary, Chatham; and J. R. A. Clark-Hall to the *Vivid*, additional, for disposal.

ARMY MEDICAL SERVICE.

Lieutenant-Colonel Louis E. Anderson, from the Royal Army Medical Corps, to be Colonel, vice H. Martin, deceased (dated June 5th, 1908).

ROYAL ARMY MEDICAL CORPS.

Captain C. R. Hime has been appointed Adjutant at the Depôt, Aldershot. Captain G. J. Delap, D.S.O., has been appointed a company commander at the Aldershot Depôt, vice Captain C. R. Hime.

Major George Raymond retires on retired pay (dated June 27th, 1908). Captain Lewis J. C. Hearn, from temporary half-pay, is placed on retired pay (dated June 27th, 1908).

Lieutenant Charles M. Drew is seconded for service with the Egyptian Government (dated June 9th, 1908).

INDIAN MEDICAL SERVICE.

The King has approved of the following promotion in the Indian Medical Service:—To be Surgeon-General: Colonel Percy Hugh Benson (dated April 1st, 1908).

His Majesty has also approved of the retirement of the following officers: Lieutenant-Colonel Charles Henry Bennett (dated Feb. 11th, 1908). Lieutenant-Colonel Jarlath ffrench-Mullen (dated May 25th, 1908).

ROYAL ARMY MEDICAL CORPS SCHOOL OF INSTRUCTION.

Captain George G. Delap, D.S.O., R.A.M.C., to be Assistant Instructor, vice Captain H. C. R. Hime (dated June 15th, 1908).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Richard H. Luce to be Surgeon-Major (dated June 17th, 1908).

THE TERRITORIAL FORCE.

Royal Army Medical Corps.

Yorkshire Mounted Brigade Field Ambulance: Captain William Kitson Clayton, from the South Yorkshire Bearer Company, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908). Captain (Honorary Captain in the Army) George Gardner Oakley, from the West Yorkshire Bearer Company, Royal Army Medical Corps (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Lieutenant Alexander Wetherhead French, from the South Yorkshire Bearer Company, Royal Army Medical Corps (Volunteers), to be Captain (dated April 1st, 1908).

1st Northumbrian Field Ambulance: Surgeon-Captain John Clay, from the 2nd Volunteer Battalion, The Northumberland Fusiliers, to be Major (dated April 1st, 1908). Surgeon-Captain Frederick Newman Grinling, from the 2nd Volunteer Battalion, The Northumberland Fusiliers, to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Lieutenant Frank Hawthorn, from the 1st Newcastle-on-Tyne Royal Garrison Artillery (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). John Maxwell Gover to be Lieutenant (dated April 1st, 1908). James Willie Heslop to be Lieutenant (dated April 25th, 1908). James Percy Milne to be Lieutenant (dated April 25th, 1908). William Simpson to be Lieutenant (dated April 25th, 1908). Frederic George Armstrong to be Lieutenant (dated April 25th, 1908).

2nd Northumbrian Field Ambulance: Surgeon-Captain Laurence James Blandford, from the 1st Volunteer Battalion, The Durham Light Infantry, to be Major (dated April 1st, 1908). The undermentioned officers from the 1st Volunteer Battalion, The Durham Light Infantry, to be Lieutenants, with precedence as in the Volunteer Force: Surgeon-Lieutenant Henry Carden Pearson (dated April 1st, 1908). Surgeon-Lieutenant Duncan Alexander Cameron (dated April 1st, 1908). Surgeon-Lieutenant Douglas Vercoe Haig (dated April 1st, 1908). Surgeon-Lieutenant David Leonard Fisher (dated April 1st, 1908). Surgeon-Lieutenant George Greig Farquhar (dated April 1st, 1908). James Donald Sinclair to be Lieutenant (dated April 1st, 1908).

3rd Northumbrian Field Ambulance: Surgeon-Major Henry George Falkner, from the 1st Volunteer Battalion, The East Yorkshire Regiment, to be Lieutenant-Colonel (dated April 1st, 1908). Surgeon-Captain Arthur Tinsley Sissons, from the 1st Volunteer Battalion, The East Yorkshire Regiment, to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). The undermentioned officers, from the 1st Volunteer Battalion, The East Yorkshire Regiment, to be Lieutenants, with precedence as in the Volunteer Force: Surgeon-Lieutenant Oswald Lucas Appleton (dated April 1st, 1908). Surgeon-Lieutenant Percy Roberts Ash (dated April 1st, 1908).

1st West Riding Field Ambulance: Captain Algernon Edward Luke Wear, from the Northern Command, Leeds Companies, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel (dated April 1st, 1908). Lieutenant Alexander Dunstan Sharp, from the Northern Command, Leeds Companies, Royal Army Medical Corps (Volunteers), to be Captain (dated April 1st, 1908). Surgeon-Lieutenant Alexander Brodie Seton Stewart, from the 2nd (Leeds) Yorkshire (West Riding) Royal Engineers (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). James Ewing to be Lieutenant (dated April 1st, 1908).

2nd West Riding Field Ambulance: Captain William McGregor Young, from the Northern Command, Leeds Companies, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908). The following officers from the Northern Command, Leeds Companies, Royal Army Medical Corps (Volunteers), to be Captains (dated April 1st, 1908): Lieutenant Harold Collinson and Lieutenant Frederick Whalley.

North Midland Mounted Brigade Field Ambulance: Surgeon-Captain Thomas Thompson, from the 1st, Volunteer Battalion, The South Staffordshire Regiment, to be Major (dated April 1st, 1908). Arthur Avent to be Lieutenant (dated May 8th, 1908).

1st North Midland Field Ambulance: Captain and Honorary Major Richard Harman Luce, from the Sherwood Foresters Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel (dated April 1st, 1908). Captain William James Reid, from the Sherwood Foresters Bearer Company, Royal Army Medical Corps (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Lieutenant Ernest Arnold Wraith, from the Sherwood Foresters Bearer Company,

Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908).

2nd North Midland Field Ambulance: Captain William Pemberton Peake, from the Leicester and Lincoln Bearer Company, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908). The following officers, from the Leicester and Lincoln Bearer Company, Royal Army Medical Corps (Volunteers), are appointed to the Field Ambulance with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Captain Montague Shirley Wyatt Gunning and Lieutenant Alastair MacGregor. James Robert Plant to be Lieutenant (dated April 1st, 1908).

3rd North Midland Field Ambulance: Captain Howard Henry Congreve Dent, from the Staffordshire Bearer Company, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908).

1st South Midland Field Ambulance: Captain Arthur Roscoe Badger, from the Worcester and Warwick Bearer Company, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908). Surgeon-Captain Cyril Henry Howkins, from the 1st Volunteer Battalion, The Royal Warwickshire Regiment, to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Lieutenant George William Craig, from the Worcester and Warwick Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Lieutenant Seymour Gilbert Barling, from the 1st Volunteer Battalion, The Royal Warwickshire Regiment, to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Cyril Reginald Lunn to be Lieutenant (dated April 1st, 1908). William Malcolm Sturrock to be Lieutenant (dated April 1st, 1908). William McCall to be Lieutenant (dated April 1st, 1908).

2nd South Midland Field Ambulance: Surgeon-Major Charles Thomas Griffiths, from the 1st Volunteer Battalion, The South Staffordshire Regiment, to be Lieutenant-Colonel (dated 1st April, 1908). William Algernon Louis Holland to be Lieutenant (dated April 1st, 1908). John Henry Hobling to be Lieutenant (dated April 1st, 1908). Alfred Alwyne Hingston to be Lieutenant (dated April 1st, 1908).

3rd South Midland Field Ambulance: Surgeon-Lieutenant-Colonel Arthur William Prichard (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Portland Volunteer Infantry Brigade), from the 1st (City of Bristol) Volunteer Battalion, The Gloucestershire Regiment, to be Lieutenant-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Captain James Young, from the 1st (City of Bristol) Volunteer Battalion, The Gloucestershire Regiment, to be Major (dated April 1st, 1908). Bertram Mitford Heron Rogers to be Lieutenant (dated April 1st, 1908). James Smith Mather to be Lieutenant (dated April 1st, 1908). Thomas Arthur Green to be Lieutenant (dated April 1st, 1908). Percy Moxey to be Lieutenant (dated 1st April, 1908).

3rd Home Counties Field Ambulance: Major and Honorary Lieutenant-Colonel John James de Zouche Marshall, from the East Surrey Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel (dated April 1st, 1908).

QUEEN ALEXANDRA'S IMPERIAL MILITARY NURSING SERVICE.

With reference to the recent notification that the Army Council had decided to form a reserve of nurses in order to provide for the necessary expansion of *personnel* on the outbreak of war, the Secretary of the War Office announces that regulations for this reserve have now been approved. Among them are the following. A candidate must be between 26 and 45 years of age, single or widow, and possess a certificate of not less than three years' training and service in a civil general hospital or Poor-law infirmary recognised by the Local Government Board as a nurse-training school. Members will be enrolled for a period of three years and must agree to serve at home or abroad as required. An annual retaining fee of £2 will be paid to sisters and staff nurses on the understanding that the grant of this fee to each individual will be reviewed annually. When called upon for duty in military hospitals they will receive the following yearly rates of pay: matron, £75 to £150; sister, £50 to £65; staff nurse, £40 to £45; and the following allowances: (1) allowance in lieu of board and washing—at home 15*s.* a week, abroad 21*s.* a week; or if free messing is provided 3*s.* 6*d.* a week; and (2) clothing allowances—annual clothing and cloak allowance, at home £8, abroad £9; outfit allowances when proceeding on active service, £8 5*s.* On cessation of army employment members whose service has been satisfactory will receive the following gratuities: matron, £15; sister, £10; staff nurse, £7 10*s.* Full particulars and forms of application can be obtained from the Secretary, War Office, Whitehall, London, S.W.

THE BIRTHDAY HONOURS.

The list of birthday honours include the names of Lieutenant-Colonel Johnston Shearer, D.S.O., I.M.S., who has been made a Companion of the Order of the Bath, and of Lieutenant-Colonel Francis F. Perry, I.M.S., Honorary Surgeon to the Viceroy of India, who has been made a Companion of the Order of the Indian Empire.

PRESENTATION TO A VETERAN.

At Llandilo, Carmarthenshire, on June 13th, Brigade-Surgeon Edward Hopkins, A.M.S. (retired), was presented with a life-sized portrait of himself, a tea and coffee service, dinner gong, and a case of silver fish-knives as a mark of respect and esteem by the residents of the district. The portrait shows Mr. Hopkins wearing the old "A.M.D." uniform, with six campaign medals.

Inspector-General of Hospitals and Fleets Robert Grant, R.N. (retired), C.B., has been appointed Deputy Lieutenant for the county of Banff.

Correspondence.

"Audi alteram partem."

SPECIAL EXHIBITIONS AT THE CLINICAL MUSEUM.

To the Editor of THE LANCET.

SIR,—We have recently developed a somewhat novel feature in connexion with the Clinical Museum of the Polyclinic Post-Graduate College. Our museum consists almost exclusively of portraits and of models, &c., illustrating the features of disease in the living subject. These have been collected from all available sources and comprise, in addition to original drawings and photographs, a vast number of engravings, plates, &c., taken from atlases and other published works. The collection has accumulated to such an extent that it has become very difficult to know how to display its contents.

Although our Museum, which was built for the purpose, is large it became very inconveniently crowded. We were reluctant to put the drawings away in portfolios where they must of necessity be comparatively hidden. The expedient devised has been to clear the floor of the museum for the purpose of *the temporary display of special collections*, allowing the great majority to remain in portfolios. In these special collections we exhibit, in classified order, all that the museum possesses in illustration of the topic concerned. After remaining on display for a month or more these collections are removed to make way for others. We have on display at the present time two collections which must shortly be removed and it is on their account that I now ask your kindly aid to make known to those who have not already visited them that they can be seen for yet another fortnight. One of them concerns the eruptions caused by the attacks of blood-sucking insects and other parasites on the skin. This subject is one which has been comparatively neglected in our systematic works and I feel assured that an inspection of the pictorial illustrations which are here arranged, side by side, will much help the practitioner to a more definite knowledge of a really important class of maladies. It includes many of those which have been comprised under such names as *prurigo*, *lichen*, and *urticaria*, and of those to which the adjectives *urticans*, *urticatus*, *pruriginosus*, *hæmorrhagicus*, *infantilis*, *æstivalis*, &c., have been applied.

Our second special exhibition is of representations of the different forms of Xanthoma and its allies, the eruptions which are associated with disorders of the liver and the circulation of bile elements in the blood. In this collection we

show upwards of 40 portraits, many of them of great interest and a few unique. They are grouped under the heads of Xanthelasma and its variations, including the sebaceous and sudoriparous forms; Icteric xanthoma and Glycosuric xanthoma. I must not trespass further on your space than to add that both these exhibitions must be removed in a week or two and that meanwhile anyone wishing to inspect them will be welcome at the Polyclinic, 22, Chenies-street, Gower-street.—I am, Sir, yours faithfully,

June 29th, 1908. JONATHAN HUTCHINSON.

PRIMITIVE MIDWIFERY IN SOUTH CHINA.

To the Editor of THE LANCET.

SIR,—In the very interesting paper by Professor J. B. Hellier on the Methods of Primitive Midwifery, published in THE LANCET of Feb. 8th, p. 419, the suggestion was made that some readers who have the opportunity of first-hand study of the practices referred to should record their personal experiences. The following observations apply to South China where I am engaged in hospital work. In North and Central China the conditions are different. There, as a rule, women only are allowed to attend to cases of childbirth. Here it is customary for midwifery operations to be undertaken by men as well, and no objection is made to their presence. Naturally, in a Chinese inland town one sees cases which, owing to prolonged labour without assistance, are rarely met with in English practice. One of my first introductions to Chinese midwifery work took place in a village where the woman had been in labour for some five days. The child was a monster with one head, two bodies, four arms, and four legs. The uterus was already ruptured and two of the legs had gone through the rent. Fortunately the resisting powers of the Chinese peasant woman are great. She lives a much more natural life than her Western sisters, and if she has to do more than her share of the rough work in the fields she reaps the benefit when the time comes for the birth of a child.

Professor Hellier divides the development of obstetrics into three stages. China is undoubtedly still in the primitive stage, characterised by an entire absence of knowledge of anatomy and the mechanism of labour. Native doctors, for instance, are taught that in normal labour the child makes its first appearance with the face looking to one side. If it looks downwards it portends the death of the father; if upwards, it portends that of the mother. The treatment resorted to is often cruel in the extreme and as senseless as cruel. It is indeed a wonder that the inhabitants of a country which has been civilised for so many centuries and has shown so much ingenuity and inventive power in the past should have failed to grasp the very elements of midwifery practice.

There is probably no race more fond of all sorts of medicine than the Chinese. Pills, plasters, ointments, concoctions of every variety are always acceptable by the sick Celestial. Consequently one is not surprised at the large number of internal and external remedies for difficult labour. Most of these are given with a view to strengthening the pains. The administration of urine, mentioned by Professor Hellier, is not confined to the Dutch East Indies. In South China it is a well-recognised remedy. But it is always children's urine that is drunk, and almost invariably that of a little boy. Contrary to what one might expect, opium is rarely given. A pheasant ripped open while still alive and placed on the abdomen is supposed to be efficacious, but not so much so as a tiger's intestines. These are worn round the neck with the ends hanging down. Being an expensive remedy, they are usually borrowed for the occasion from some neighbouring medicine shop which keeps them in stock. The midwife is usually an old woman of most uncleanly habits who probably has been summoned from her fields for the occasion and who has had neither time nor inclination to first wash her hands. Even in normal labour she is responsible for a lot of suffering, but it is when delivery is delayed that she does most harm. There are no forceps in Chinese native practice. If the child does not appear after what is judged to be the proper time the midwife inserts her hand and attempts to pull at the first thing she can catch hold of. On one occasion I was called to a case of placenta prævia where the woman had been bleeding badly for some 60 hours. Largely owing to the attentions of the midwives, I found presenting at the vulva the cord, a piece of the placenta, one foot, and two arms. If pulling at the first part which comes to hand prove unsuccessful recourse is had to a knife and the whole vulva is often torn and cut in a most barbarous manner, the urethra not infrequently being irremediably damaged. On two or three occasions I have seen the vulva and the rectum made into one large cavity and the woman almost pulseless from loss of blood. I have felt incisions all round the cervix comparable to the first steps of vaginal hysterectomy. Once I found that somehow or other the native doctor had forced apart the symphysis pubis so that there was a space of an inch between the two pubic bones and a finger could be inserted for two and a half inches into the cavum Retzii.

With such methods of treatment, transverse presentations are naturally very dangerous, and as a matter of fact such cases, not within reach of a foreign-trained doctor, almost invariably die. The treatment pursued is to place a little rice or a few cash into the hand and then to push it back with the idea apparently that having received a present the child will consent to come down in the right way. The next step is to pull on the hand. Sometimes the other arm is brought down, making delivery more difficult still, but I have only seen this once. Usually the further treatment of the case resolves itself into pulling more and more energetically until the woman dies from exhaustion or ruptured uterus. Embryotomy is never done purposely. Sometimes an energetic midwife will open the head in her endeavour to deliver, but this is considered bad practice. As a rule, in cases of impacted head injuries to the child due to the midwife are confined to the scalp, which may be torn right off.

The Chinese have a great horror of a woman dying with the child still unborn. In not a few cases the foreign doctor arrives upon the scene when the woman is just on the point of death. Naturally, in these circumstances, one does not like to interfere, especially if the woman happens to live in a distant village where no foreigner has been before and where consequently there is a crowd of some hundreds of interested onlookers outside the door. The greatst pressure is brought to bear upon the doctor to undertake the case. The oldest man in the family, of most venerable appearance, will come personally to make the request. Once I have had my chair sent away with the intention of keeping me in the house until the child was born. The death of the woman seems unimportant compared to the necessity of delivering the child. A woman who dies in childbirth with the child undelivered is supposed always to remain in hell, and her spirit, never at rest, is believed constantly to harass the family and bring all manner of ill-fortune upon each member. With a view to avoiding this the Chinese sometimes perform Cæsarean section. I have never heard of the operation being attempted when the woman is alive. It is done after death. The operation is performed by one of the local coffin-bearers who form, perhaps, the most degraded class in Chinese society. A nurse informs me that the customary fee is five Mexican dollars, about a month's wages for an ordinary coolie.

A curious superstition among the Chinese women is that sometimes the child is born viâ the rectum. To prevent this some Chinese women refuse to lie down for delivery but sit firmly on their wooden bedboards until the head appears. A few months ago at the house of the local chief magistrate we had for this reason great difficulty in persuading a woman to allow us to attend to her in the ordinary position. I remember this case well as the chief lady of the Yamen was herself an amateur Chinese doctor. She dosed the other women of the establishment with their children, like Mrs. Squeers, and they dare not refuse. I was told privately that she had already killed five or six infants in this way. At the time of the operation it was not etiquette for her or the other wives to be present. I thought I heard some breathing behind my back and looking round found a screen through which several holes had been bored. At each hole there appeared an eye!

As a rule the Chinese midwife does not pull upon the cord in a case of normal labour, and it is to her credit that she will wait for two or three hours for the placenta to be delivered naturally. The woman is given various drugs and

foods. Sometimes she is made to vomit and then, as mentioned by Professor Hellier, her own pigtail may be used for the purpose, being thrust down the throat. Should this be of no avail the cord is pulled upon or a special midwife is summoned who, without any previous cleansing, thrusts her hand into the uterus and brings out parts of the placenta. The umbilical cord is left long. It is not cut with a knife or scissors but severed with a broken piece of crockery or bitten through with the teeth. A large number of children die from infection at the umbilicus. The child is usually washed on the third day after birth. When the next bath is given is very indefinite. The baby is fed with rice and cakes on the first day of its existence. I have noticed that the boat women sometimes chew the rice themselves before giving it to the infant. No doubt this assists the child's digestion by supplying some of the starch-converting ferment which is lacking in the infantile economy, but as a rule the rice and cakes are given in the same way as they would be given to an adult. It is not to be wondered at that in these circumstances the mortality among new-born children from digestive complaints is very great.

I am, Sir, yours faithfully,

PHILIP REES, B.A., B.Sc., M.B. Lond.,
Surgeon to the Customs, Wuchow.

Wesleyan Hospital, Wuchow, China, April, 1908.

TRICHOPHYTON AND MICE.

To the Editor of THE LANCET.

SIR,—It may be of interest to your readers if I mention a coincidence that happened to me in connexion with the above subject. Some three years ago I mounted a section of a mouse's testicle and on examining it found it contained a most perfect specimen of pure culture trichophyton. This specimen was put amongst my collection. Some few weeks ago a medical man sent me two tubes of pure ringworm from London to mount four specimens of trichophyton, four of microsporon; in all I mounted about 20. But there was one beautiful specimen and this I compared with the specimen mounted from the mouse; I find the two specimens are exact.

I am, Sir, yours faithfully,

Maldon, Essex, June 29th, 1908. CHARLES DIBBEN.

*** We understand that in the laboratory at St. George's Hospital there has been an epidemic of trichophyton in the mouse. The condition was at first thought to be favus but culture showed it to be a microsporon. It caused some ulceration, indeed the skull seemed to be destroyed by it in places, and possibly some such similar condition might account for the condition observed by Mr. Dibben in the mouse's testicle.—ED. L.

THE STRAWBERRY SEASON.

To the Editor of THE LANCET.

SIR,—The interesting annotation which appeared in THE LANCET of June 20th *in re* "the strawberry season," suggested to me in the course of perusal that some of your readers might be glad to know that the semi-popular idea that the strawberry is "good for the gout"—as well as for some other things—is one which has been stamped with the highest botanical authority. The name of the great Swedish physician Linnæus is pretty surely known to most readers of the present generation only as that of the great student of natural history and founder of the modern science of botany, not of the active medical practitioner which he actually was during the greater part of the period of his most original researches. In his native land of Sweden, as might be expected from a soil and people of strangely romantic history, inspiring scenery, and somewhat uncanny meteorology, the folk-lore medicine of the people, the miracle methods of the clerics, the faith-cure of the quack pretender, and the witchcraft treatment of the wrinkled sorceress, for many centuries included the bulk of the practice of the healing art as carried out in that country. Herbal cures, ranging in value from that of the "All heal"-ing mistletoe downwards, were largely employed by the people of all the Scandinavian territories. One of the medicinal products of the vegetable kingdom which have been largely used by the Swedish people is the wood strawberry, and the belief in the therapeutic efficacy of this fruit has been by no means confined to the peasantry and the unlearned vulgar. Linnæus himself has placed on record the fact that by eating of this fruit he was able to bring a violent attack of gout to a precipitate conclusion, and for the remainder of his life he consumed a maximum quantity of fresh strawberries. There was thus a very good precedent behind the attempted boom of the "strawberry cure of gout" which was made in the latter years of the past century, although the "discoverers" of the "cure" did not, so far as I can remember, quote that authority! And it is of interest to add in this association a passing reference to a still more remarkable specimen of folk-lore prescience of recent—"modern"—discovery in the domain of scientific therapeusis: the Swedish appreciation of the *wintergreen*, which has been time out of mind recognised by the peasantry of that country as a "miraculous" cure for rheumatism, and is on that account popularly known by the highly expressive epithet of *Stat up ach gatt* (Stand up and walk).

I am, Sir, yours faithfully,

Dublin, June 23rd, 1908. JOHN KNOTT.

CHILDREN'S COUNTRY HOLIDAYS FUND.

To the Editor of THE LANCET.

SIR,—The delightful weather of the early summer brings to the minds of your readers happy memories of pleasant holidays spent abroad or at the seaside or in the country and is turning their minds to the days when they will again leave London. May we remind them of the needs of the poor children of London, most of whom have no such happy memories confined as they are to the streets.

The Children's Country Holidays Fund, which is now entering on its twenty-fifth year of work, exists to send the poor children of London into the country for a fortnight's holiday with cottage hosts. All children between the ages of five and 14 attending the elementary schools are eligible without distinction of creed; and in all cases where they can, the parents contribute towards the cost. Last year 41,970 enjoyed a fortnight in the country. May we ask your readers to help us to send 50,000 this year? Every guinea subscribed will provide a fortnight's holiday for two children. All donations, large or small, will be gratefully acknowledged by the Hon. Treasurer, the Earl of Arran, 18, Buckingham-street, Strand, W.C.

We are, Sir, yours obediently,

ALFRED LYTTELTON } Trustees of the Children's
W. F. D. SMITH } Country Holidays Fund.

Buckingham-street, Strand, W.C., June 23rd, 1908.

DIRECT EXCRETORY IRRITATION

To the Editor of THE LANCET.

SIR,—On p. 1776 of your issue of June 20th you have a review of Dr. Norman Walker's new edition of "Introduction to Dermatology." The writer therein remarks: "We agree with the author that most of the substances causing urticaria certainly act as toxins on the skin, probably as they are being excreted, and that they do not cause the disease merely by reflex irritation, as is still often taught," and so on. This passage confirms my theory of the origin of many symptomatic skin rashes by direct excretory irritation. It was first published at the Birmingham meeting of the British Medical Association some 18 years ago. Later, it was somewhat more elaborated in a little volume "Excretory Irritation," published in 1897. The theory has passed through the early stages of derision and neglect and is now virtually adopted by implication in the writings of various dermatologists. Dr. Norman Walker, however, is the only dermatologist who has so far formally and publicly acknowledged my position in the matter—and he has done so in several past editions of his book. To the latter fact I venture to call the attention of your reviewer. Personally I have always been content to accept the position that if my theory attains the established dignity of a general law the question of authorship does not much matter. At the same time I am sure THE LANCET would wish its readers to be accurately informed upon a point of the kind.

I am, Sir, yours faithfully,

Bryanston-street, W., June 29th, 1908. DAVID WALSH.

NOTES UPON HEALTH RESORTS.

SCANDINAVIAN WINTER HEALTH STATIONS.

(BY A SPECIAL COMMISSIONER.)

VII.[1]

GOTHENBURG AND DISTRICT.

AFTER Stockholm, Gothenburg is the best centre from which English visitors should explore Sweden. It is easily reached. There are good hotels. Many objects of interest are worthy of a visit, particularly the beautiful Castle Park or Slottskogsparken, the Museum and excellent collection of paintings and sculpture, the Trädgardsföreningen, or gardens of the Horticultural Society, and its extensive general hospital. There is a large and influential colony of English residents in Gothenburg. As a starting point for many interesting excursions by rail or steamer this city presents many advantages. It is also a centre which has been conspicuous in the development of educational and industrial enterprises and has adopted a progressive attitude towards movements aiming at physical and social betterment. The student of medico-sociological problems will find much food for thought in Gothenburg, Sweden's Manchester and Liverpool combined. But it is not with these matters that these articles are concerned. It is desirable that English health and holiday seekers should understand that Gothenburg is the gateway to a district of Sweden which is particularly well suited for health stations, but hitherto almost unknown outside Scandinavia and until recently undeveloped by Swedes themselves. The Göteborg-Boras-Alfvesta railway has opened up Westergotland, a province of Sweden wonderfully rich in natural charms and offering exceptional advantages for the establishment of sanatoriums and health resorts.

FIG. 1.

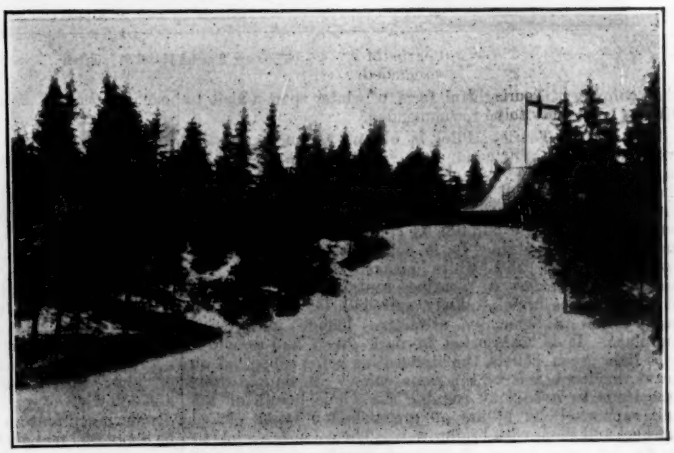
The Sports Club-house at Hindas.

Through the courtesy of Captain Sprinchorn, the general manager of the line, and under the personal guidance of Mr. Charles Östrand, to whose considerate kindness and wide knowledge I am much indebted, was enabled to explore some of the most attractive parts of this picturesque, admirably engineered, and enterprisingly managed railway. I was particularly struck with the advantages offered by two comparatively new and undeveloped centres on this line, and as at both there is accommodation well suited to the requirements of English visitors I propose to describe the chief features of these hitherto almost unknown resorts. It should be understood that for the unconventional explorer of Nature's retreats and for the holiday-maker who would discover new paths and seek out fresh centres far removed from the haunts of the vulgar tripper and the route of the ordinary tourist the Göteborg-Boras-Alfvesta Järnvägar offers unrivalled opportunities. The line was opened for traffic in 1902 and now provides a way into the heart of Southern Sweden, with its highlands of Smaland, intersected by numerous lakes, and forms a route to Carlskrona, Kalmar, and the south-east of Sweden. The line in several sections of its course rises to a considerable altitude and the surrounding country is peculiarly attractive.[2]

HINDAS.

Twenty-two miles from Gothenburg, and distant only three-quarters of an hour's railway journey, the new health station of Hindas is situated. Although at present quite in its infancy this centre promises to be one of considerable importance in the near future. The very railway station is unusual and at once appeals to the artistic visitor. It is built in the old Swedish style with loggia, and its large hall gaily painted and provided with an open fireplace and quaint chandeliers and brackets for electric lamps give it a peculiarly attractive appearance. Hindas lies in the midst of forests and lakes. The latter are well stocked with fish and afford ample sport for the angler. The place seems to have been first discovered a few years ago by some of Gothenburg's enthusiastic ski-touring sportsmen. Its many advantages as a winter sports centre led to the establishment of a club house by the Gothenburg Sports Union. This is one of the most charming of club quarters (Fig. 1). It is a wooden structure of two storeys. Throughout a naturalness and simple artistic fitness have been maintained, while at the same time requirements for comfort and convenience have not been lost sight of. In one corner of the roomy hall is placed an old-fashioned open brick fire-place where pine logs are burned, scenting the interior with their fragrance. The large club-room is typically Swedish with polished floor and wooden furniture coloured green and red.[3] A library is well supplied with sporting literature. On the ground floor are also kitchen, pantry, and toilet rooms. The bedrooms are situated on the first floor and provision is made

FIG. 2.



The ski-jump at Hindas.

[1] Nos. I., II., III., IV., V., and VI. were published in THE LANCET of April 25th (p. 1238), May 2nd (p. 1306), 16th (p. 1435), and 30th (p. 1578), and June 13th (p. 1717), and 27th (p. 1875), 1908, respectively.

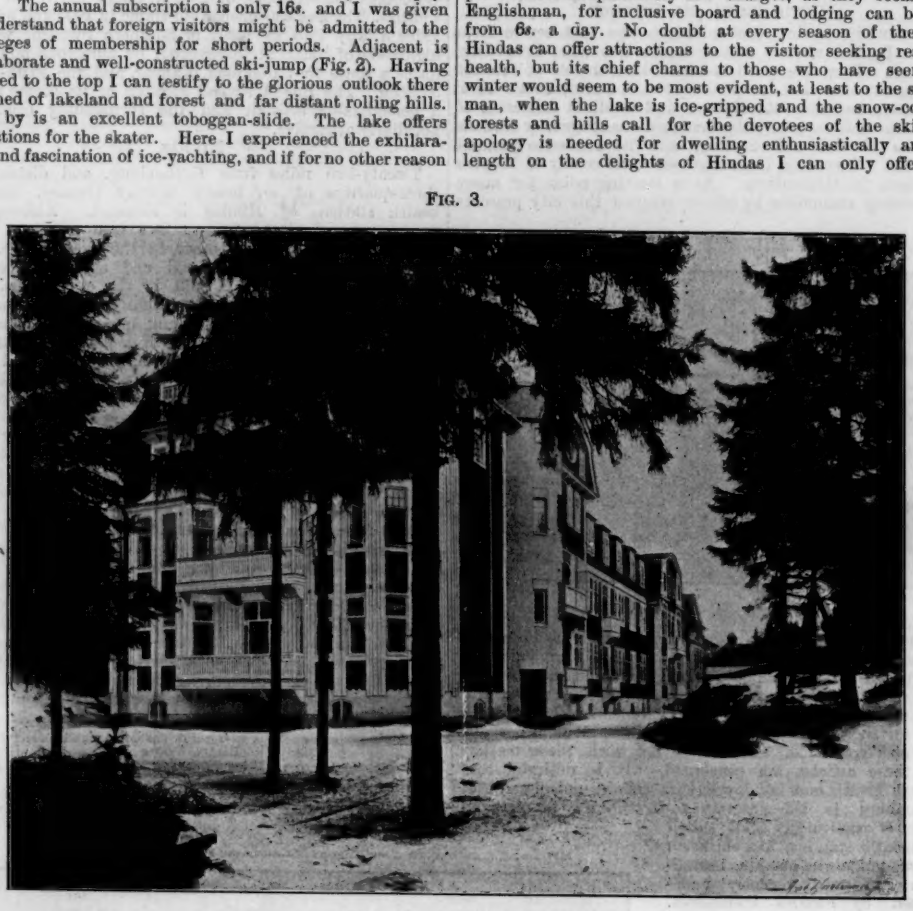
[2] An illustrated handbook to the line has been published: "En Färd Med Göteborg-Boras och Boras-Alfvesta Järnvägar." Göteborg: Wettergren and Kerber. Price 75 öre. I understand that an English edition is in preparation.

[3] Good illustrations appear in the Club Year-books: "Göteborgs Idrotts Förbunds Arsskrift" Göteborg: Bröderna Töpels Boktryckeri.

for 16 women and 24 men. It must be remembered that in Scandinavia the co-education begun in school days is advantageously continued through youth into adult life, and its benefits are conspicuous in the associations which are natural and necessary for the proper conduct of winter sports. From the balconies delightful views are obtained of Lake Nedsjon, which lies just beneath the club-house. The whole building is warmed by a central heating apparatus and lighted by gasolene. Members of the Union can reside here for a merely nominal fee and have the use of boats, canoes, ice-yachts, skating-sails, skis, and skates on very small payment. The annual subscription is only 16*s.* and I was given to understand that foreign visitors might be admitted to the privileges of membership for short periods. Adjacent is an elaborate and well-constructed ski-jump (Fig. 2). Having climbed to the top I can testify to the glorious outlook there obtained of lakeland and forest and far distant rolling hills. Near by is an excellent toboggan-slide. The lake offers attractions for the skater. Here I experienced the exhilaration and fascination of ice-yachting, and if for no other reason than enjoying this delightful form of winter sport a visit to Hindas is strongly to be recommended.

The Hindas Tourist Hotel is one of the most artistic, comfortable, and ably conducted establishments of its kind in Sweden (Fig. 3). Having spent a night here and thoroughly inspected all parts of the building and grounds I am in a position to form an opinion. In architectural features the building is characteristic of the best modern Swedish style. It is constructed of wood. Its exterior in red and white makes an effective impression and forms a pleasing contrast to the setting of dark pines which closely surround it. The central hall forms a specially attractive lounge and meeting-place. It is wainscoted in dark green and provided with light green panels, the high ceiling being supported on heavy wooden beams of the same colour. A double staircase leads to a balcony running the whole length of the hall supported by pillars of green-stained wood picked out here and there with bright red. The colouring adopted in Sweden, and indeed throughout Scandinavia, seems to exercise a peculiar psychological influence which is at once soothing and stimulating. A large open fireplace, provided for the burning of pine logs, adds an old-fashioned and homely appearance which English sportsmen will know how to appreciate. The dining-room and other apartments are excellent. There are 63 bedrooms. Each has its own little lobby and most are provided with a balcony. The sanitary arrangements leave nothing to be desired. A water-closet system is provided throughout. There are also first-class baths. The most surprising thing about the place is the comparatively low charges, as they seem to an Englishman, for inclusive board and lodging can be had from 6*s.* a day. No doubt at every season of the year Hindas can offer attractions to the visitor seeking rest and health, but its chief charms to those who have seen it in winter would seem to be most evident, at least to the sportsman, when the lake is ice-gripped and the snow-covered forests and hills call for the devotees of the ski. If apology is needed for dwelling enthusiastically and at length on the delights of Hindas I can only offer the excuse that I would share my experiences with other Britishers.

FIG. 3.



The new Tourist Hotel at Hindas.

HULTAFORS.

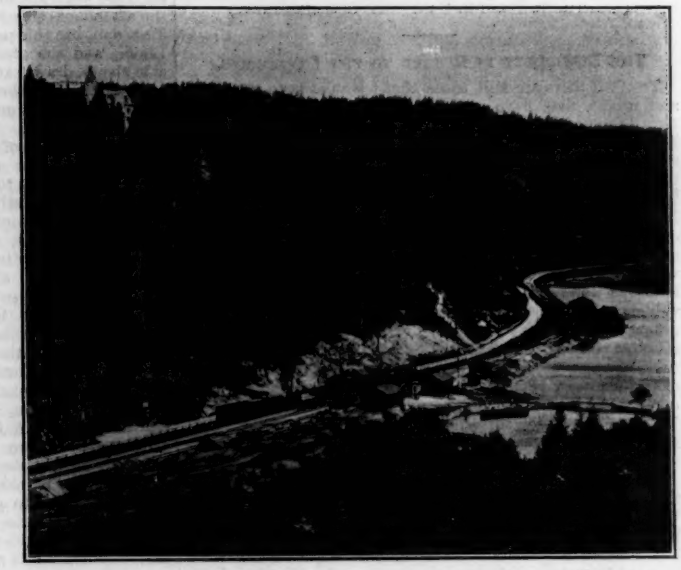
A few miles beyond Hindas the country assumes a somewhat wilder aspect. At Hultafors on the mountain slopes overlooking the Viared lake a new hydropathic establishment and climatic cure station has recently been opened. Dr. Klas Björkman, the visiting physician, very kindly showed me over the whole building. Hultafors is at present little more than a station and a sanatorium, as will be seen from the accompanying illustration (Fig. 4). A new station is being built and as Gothenburg is only 36 miles distant and the service of trains very good the place should develop rapidly. The hydropathic establishment is admirably placed on the hillside, surrounded by forests of pine, birch, mountain ash, oak, alder, and hazel, and allowing of extensive views over the lake below and distant mountains and forest lands. The altitude is said to be about 850 feet above sea level. The building is thoroughly up-to-date both in its planning and its equipment. It is

angled and faces south and thus forms a veritable sun-trap and thorough shelter from the most trying winds (Fig. 5). In the lowest storey are placed the baths which are very complete and allow of the administration of almost every kind of hydrotherapeutic measure and the chief forms of electrical treatment. The lounge-hall, dining, and other public rooms have been well designed. The bedrooms, of which there are 60, and the private apartments are excellent, nearly all looking out southwards over lake and forest, and in many instances being provided with balconies. Heating is maintained by a central hot-water system. Electric light is provided throughout. The sanitary arrangements are good, a complete water-closet system having been installed.

Hultafors is an ideal resort for the weary worker seeking rest for mind and body. Here the convalescent may recuperate, the overwrought obtain relief from the stress and strain of hustling life, and the neurotic, the delicate, and the invalid obtain hygienic oversight, nursing and medical supervision, under the best possible climatic conditions and with ease and comfort almost amounting to luxury. At the time of my visit a well-trained nurse, experienced in Swedish massage and medical gymnastics, was in residence. Tuberculous cases are not admitted. Special attention is devoted to patients requiring regulation of diet.

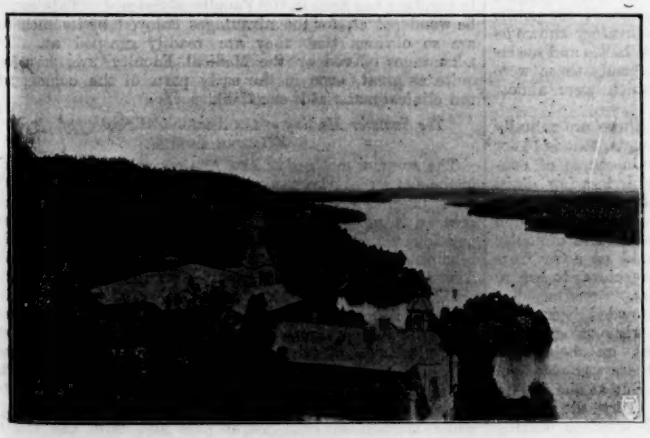
Although primarily intended for cases requiring more or less medical direction and care, visitors desiring renewal of health and mental vigour by a participation in the milder forms of winter sport will be welcomed. The inclusive tariff ranges from kr. 5.50 (5*s.* 6*d.*) a day, with a charge of 1 kr. a day for a complete hydropathic course. Medicated, electric light, and massage baths are charged at from 25 to 75 öre a bath. These terms appear to be remarkably reasonable. There are many English patients and health and holiday seekers for whom the simple hygienic life is essential who are debarred by the prohibitive prices of many of our fashionable homeland establishments. For such, as well as for those who would practise something of Swedish winter sports for themselves, Hindas and Hultafors are thoroughly to be recommended.

FIG. 4.



Hultafors, showing the line of the Göteborg-Boras-Alfvesta Railway, with the edge of Lake Viared on the right and the new Hydropathic Establishment amidst the trees on the hillside to the left.

FIG. 5.



The new Hydropathic Establishment at Hultfors, overlooking Lake Viared. The roof of the building is shown and indicates its angled construction whereby protection from cold winds is obtained and full exposure to sunlight provided.

THE ROYAL INFIRMARY, LIVERPOOL, AND THE LATE Mr. A. F. WARR.—A meeting of the citizens of Liverpool was held at the Town Hall on June 16th, under the presidency of the Lord Mayor (Dr. Richard Caton), to promote a memorial to the late Mr. Augustus Frederick Warr, formerly M.P. for one of the Liverpool divisions and a prominent member of the committee of the Royal Infirmary, in recognition of his personal worth and eminent public services. Mr. Ralph Brocklebank (the chairman and treasurer of the Royal Infirmary), in supporting the motion, said that Mr. Warr was closely associated with him in the management of the Royal Infirmary. It was to Mr. Warr that they owed the charter of the infirmary and he helped the committee in every possible way. There were two institutions in which Mr. Warr was always deeply interested—the University and the Royal Infirmary—and without appearing to be antagonistic to the propositions of the previous speakers he would very much like to see Mr. Warr's name, if the funds would render it possible, associated in some way with the hospital for which he had done so much. Nothing, he thought, could be better than the endowment of a bed at the infirmary, with a tablet suitably inscribed, but he merely offered this as a suggestion.

ELEVENTH FRENCH MEDICAL CONGRESS AT GENEVA.—This congress, as already announced, will take place at Geneva from Sept. 3rd to 5th. Medical men intending to take part in the congress can obtain from the office of the Paris, Lyons, and Mediterranean Railway at 188, Rue St. Lazare, Paris, railway tickets from Paris to Geneva at a discount of 50 per cent.

THE FRANCO-BRITISH EXHIBITION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE DIFFICULTY IN REGARD TO THE LAVATORIES.

THOUGH there are still cases that have not been unpacked and others that have not yet even arrived, nevertheless, for all practical purposes, it may now be said that the Franco-British Exhibition is ready and well worth visiting. Exhibitions are never really ready at the day of opening but this particular exhibition may boast of having broken the record in respect to unpreparedness. The worst phase of this delay led to some widely published complaints. There is no doubt that on the opening day there were regrettable scenes round and about the lavatories. For this circumstances which no one could control, such as the bad weather, were to blame as well as the lack of foresight on the part of individuals. Who these individuals were, however, it would be difficult to say, for one and all, with a unanimity worthy of a better cause, blame each other and fail to recognise that they were themselves in any way at fault. There is the exhibition management on one side and various concessionaires on the other, and it would require a wise judge to say which of all these was the most negligent. But, as already observed, there were also special circumstances that greatly aggravated the trouble.

In the long passage-like succession of halls and sections, the Sections 1 to 8 that stretch from Uxbridge-road to the Wood-lane entrance of the main building, there are four lavatories. On the opening day vast crowds came that way but hurried forward and never noticed these lavatories or thought to retrace their steps so as to come back to them later in the afternoon. The public crowded to the Court of Honour. After the opening ceremony there was a great congestion of people between the Court of Honour, the Élite Gardens, and the Stadium. Inside the Stadium there are eight lavatories and two urinals. But the people did not think of going inside to look for them. Now the four lavatories that are on the same side of the Stadium as the Élite Gardens have had openings and doors made so that they can be reached from outside as well as from inside the Stadium. Had this been done before the opening day these lavatories would have rendered a great service. Also but for the rain and the terrible amount of mud the crowds would have scattered and have wandered towards the semicircle which contains the colonial exhibits. Here there are two lavatories by the horticultural section, and eastwards two more by the New Zealand pavilion. Further east at the end of the French Palace of Applied Arts there are also to be found a ladies' lavatory and a gentlemen's lavatory. In the centre where the great crowd congregated there were two lavatories, one on each side of the grand restaurant, which could have been used although the building was not quite finished. Undoubtedly the accommodation was insufficient, but there would have been much less cause of complaint if the public had only known where to go. While the lavatory known as No. 9 was invaded by a crowd of distressed ladies and scenes were witnessed which were certainly unseemly there were other lavatories not so very far away which were almost deserted.

Turning from the past to the present there are actually 28 lavatories in working order in the grounds, that is 14 for ladies and 14 for gentlemen; others are in course of construction. There will be four more available in a few days. Then there are also a number of private lavatories as well, notably those connected with the restaurants. The question now arises whether this will be sufficient. The difficulty is to prevent congestion. The people should go away from the crowd instead of seeking a lavatory close to where they see the largest accumulation of visitors.

Last week, when the exhibition was crowded because it was splendid cloudless weather and an early closing day, a lady undertook to visit the lavatories on behalf of THE LANCET. With but one exception there was plenty of room everywhere and no need to wait. But at the ladies' lavatory near the Senegalese village every closet was occupied and eight or ten persons were standing waiting either inside or outside the small structure. Among them there was a woman with two children who had no small change. The attendant told her there was time to go to buy something so as to get change before it would be her turn. This certainly seemed a double hardship, particularly as there were children to complicate the difficulty. Surely the attendants should be able to change at least small coins. Just opposite this particular lavatory there are the toboggan Liloise and the giant flip-flap, and these, with other minor side shows, draw many people to this part of the grounds. It is true there are other lavatories that are not far away, at the Grand Restaurant and under the Stadium, in a line with the Grand Restaurant. But the overcrowded lavatory is the first to catch the eye of the visitors as they emerge from the semicircle of the colonial exhibits. There being thus both optical and topographical reasons calculated to produce the overcrowding of one or two particular places, if these lavatories cannot be enlarged in size or more built on the same spot, a conspicuous notice might be posted indicating the way to the other nearest lavatories. Indeed, if these had been all marked down on the Exhibition map a great deal of suffering might have been avoided and many unpleasant incidents would never have occurred. England has, with just pride, considered itself the first nation in the world to construct and to introduce sanitary closets and to establish in this respect the highest standard of decency and cleanliness. Yet at this exhibition, where as a nation we should have put our best foot forward, especially in regard to sanitation, we seem on this occasion to have failed utterly to maintain our reputation. Far be it from me to attempt to pronounce an opinion or to blame individuals. But for a great exhibition to prove truly successful, above all commercial and private interests there must be a supreme influence which represents the nation as a whole. Otherwise it will degenerate into a money-making show. The energy and enterprise of individuals instead of being directed to securing a common and national success will be wasted in unseemly and unprofitable strife against each other. We shall have concessionaires showing their teeth at the general management and the general management excusing itself on the ground of the concessionaires' incapacity, while the public will suffer and the national honour is compromised.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE summer term is rapidly drawing to a close and the examinations in the various faculties are either proceeding or are over. The total number of candidates presenting themselves for examination is 569, or 80 more than last year. This increase in number may perhaps be taken as a criterion of the steady advance which the University is making and of the increasing hold which it is gaining upon the inhabitants of the city and the surrounding districts. The greatest increase in numbers has been in the Faculty of Science. This cannot be wondered at, for the advantages enjoyed by its members are so obvious that they are readily grasped at. The advantages offered by the Medical Faculty are, however, quite as great, even in the early parts of the course, and the clinical material is excellent.

The Summer Meeting of the Anatomical Society of Great Britain and Ireland.

The summer meeting of the Anatomical Society was held in the anatomical department of the University on June 26th, and, judging from the expressions of opinion of those present, it proved to be one of the most successful summer meetings not only on account of the numbers present but also because of the importance and interest of the subjects discussed. One of the striking features of the meeting was the exhibition and description of a number of reconstruction models illustrating various developmental phenomena. Professor Arthur Thomson, the President of the society, showed a model of a developing human eye. This model not only made very clear the relationships of the various parts, but it suggested that perforations were present in the outer layer of the retina at an early stage of development through which mesoblastic cells might pass and form the foci of sarcomata which are known to originate in that region. Dr. A. Bryce described the main features of the youngest human embryo known which he estimated to be about 13

days old. He illustrated his observations by a model and with the aid of lantern slides and sections. New light was thrown upon the development of the choroid plexuses in the lateral recesses of the fourth ventricle and upon the growth of the pituitary body by a model of a young developing brain, which was demonstrated by Professor P. Thompson, and the earlier stages of the growth of the lower jaw were beautifully illustrated by a series of excellent reconstruction models prepared and exhibited by Professor E. Fawcett. Professor A. M. Paterson showed a series of preparations in support of his contention that the so-called ampulla of the rectum is not a reservoir in which fæces are retained for a certain period before expulsion but a practically closed canal. He admitted that in cases of chronic constipation the ampulla might be filled and distended with fæcal matter, but he urged that such a condition was not normal. In the discussion which followed his demonstration many differences of opinion were developed and the subject is evidently one which requires further investigation. Mr. C. A. Leedham-Green summarised the opinions and evidence regarding the sphincter of the bladder and proved conclusively that the sphincter apparatus at the upper end of the prostatic urethra is an important and effectual mechanism. Professor G. Elliot Smith gave a most lucid explanation of the methods of mapping out the areas of the brain cortex and presented a new chart of the areas modified from those which have previously been published in accordance with the results of his more recent work. He also drew attention to the frequent presence of the infantile type of urinary bladder in adult negroes and Egyptians and pointed out the necessity of remembering its occurrence in the performance of operations in the lower part of the abdomen. Professor D. E. Derry of Cairo explained the methods to be adopted in recognising the sex of innominate bones. He laid great stress upon the presence of a preauricular sulcus as indicative of the female bone. Professor Alexander Macalister confirmed Professor Derry's observations. Mr. Wood Jones exhibited a number of peculiar bones and fragments of bone discovered in excavations in Nubia in the hope of extracting information regarding their peculiarities from the members of the society; he received, however, little help, for the peculiarities were of a particularly uncommon nature. In the afternoon the members of the society were entertained at a most delightful garden party given by the Dean of the Medical Faculty of the University and Mrs. Barling. The proceedings terminated with the usual annual dinner to which Mr. C. B. Lockwood, the first secretary of the society, had been invited as the chief guest to celebrate the society's attainment of its majority, the present year being the twenty-first of its existence.

Hospital Saturday.

June 20th was Hospital Saturday in Birmingham and if the amount paid into the bank on that and the closely following days may be taken as a criterion it appears probable that a new record may be made. Last year the £20,000 which the late Sir William Cook had worked and hoped for was attained and he had the pleasure caused by the realisation of his wishes, but it seems for the moment, at all events, that last year's collection will be exceeded this year. On June 20th the amount paid into the account of the fund was £14,733, or £127 more than last year, and by June 25th the total sum had increased to £17,746, a sum which exceeded that paid in the same period last year by £493. It is also worthy of note that the number of contributors was somewhat smaller than last year. If the indications are correct and the final total is still larger than it was last year, it is to be hoped that the controllers of the fund will see their way to increase the amount which they devote to the hospitals, for the amount of work which the hospitals do for the community, from whom the Hospital Saturday Funds are derived, has increased very greatly and it may be suggested without any unfairness that the sum subscribed to the hospitals from the fund has not increased in relative proportions.

The Feeble-minded.

The statement made by Mrs. Pinsent at a recent meeting of the Birmingham Education Committee will make all thoughtful and far-seeing people still more anxious than they have been that wise and firm laws shall be made as soon as possible to deal with the feeble-minded and to enable them to be placed under proper care and control. Mrs. Pinsent is not usually pessimistic, but she seemed to be depressed by the fact that the result of work of the special schools in this district was that only 19 per cent. of the individuals who had passed through them became wage-earners and only 3 per cent. were earning 10*s.* a week. The conclusion which she drew from the evidence at her disposal was that the majority of defectives require care and protection during their whole lives. If she had gone further and said all, rather than the majority, and had she suggested that restraint in addition to care and protection was required, she would probably have put forth more completely the opinions of most of those who have devoted any careful thought to the problem.

June 30th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Deaths under Anæsthetics.

AN inquest was held recently at the Manchester coroner's court on a tinsmith, aged 42 years, who had lived in Hulme. He underwent an operation on the Wednesday, having been admitted to the Withington Poor-law hospital on the previous Saturday. Chloroform was given and the man very soon collapsed. Artificial respiration was tried but without success. The medical evidence was that death followed the action of chloroform on a weak heart. The deputy coroner (Mr. Sellers) said: "The man was suffering from such a form of heart disease as would make him liable to die under an anæsthetic." One need not perhaps infer that this was intended as a rebuke to the medical men engaged in the case, but it may at all events bear the interpretation that this was a case where if an anæsthetic were administered at all it should be done with extreme caution. There was no evidence given to show that all possible precautions were not carried out and the jury returned a verdict of death from chloroform "which had been skilfully administered." The public mind, however, is a little anxious about deaths under anæsthetics and the jury added "that they thought it desirable a visiting surgeon should be present, if possible, when an anæsthetic was administered." The deputy coroner said he agreed with that expression of opinion. Nor is the medical profession in general likely to dissent from it, for, putting away any feelings of humanity which, though often forgotten, are common to us, as to the rest of mankind, the safety of the patient is instinctively, and not as a mere matter of self-interest, the first aim of the profession. Still, if the attitude of a certain London coroner is to become general, the medical profession will, from the mere feeling of self-preservation, find it necessary to be even more cautious than ever as to the cases to be operated on, either with or without anæsthetics.

Poisoning and Stupidity.

About a fortnight ago a widow, aged 57 years, poisoned herself with carbolic acid. She was sober when she bought the acid, which was wanted, she said, for disinfecting purposes, but drunk when she went to the house of her daughter-in-law, to whom she said she "was going to do it," adding, "Put some flowers on my grave." She had the poison in her pocket, went home, drank a quantity of it, and died in due course. She had often fretted over the death of a daughter a few years ago and said that she did not care how soon she was with her. The stupidity or callousness of the relatives excited the surprise of the deputy coroner who said it was extraordinary that though she told a daughter-in-law "she was going to do it" no one took the bottle from her or watched her after she left the house. The verdict, of course, was the usual one of "Suicide while temporarily insane," but the jury thought that the coroner should censure the relatives for "their stupid behaviour." This Mr. Sellers did, adding that he thought they had been somewhat callous. A relative said, "No, we were not callous; we never thought mother would do it." Giving the relatives—they can scarcely be called the friends—of this woman the benefit of the doubt as to being callous it is difficult to understand the crass

stupidity which allowed this woman to go away and to poison herself without let or hindrance. It is difficult to understand such a condition of mind. Is it the fault of our system of education, compulsory for a period which would include the lives of most of the poor creature's younger relatives, or is it that the "feeble-minded" form a larger proportion of our population than we realise?

"County Medicos."

The above somewhat disrespectful title heralds the notice of the annual dinner of the Lancashire and Cheshire branch of the British Medical Association in one of the Manchester papers. It was held on June 17th at the Queen's Hotel under the presidency of Dr. C. J. Renshaw, and was well attended. Sir William J. Sinclair proposed the toast of the evening, "The British Medical Association," in a speech which contained much wise counsel. He suggested that after such events as the elections to the council the decision of the majority should be accepted so far that the minority should decide to give the successful side a fair chance. He saw no reason why they should quarrel, "except in a genial sort of way." He thought that more attention should be paid to legislation involving the interests of the profession and instanced the Notification of Births Act as being perhaps an outcome of their negligence and added, "the sooner it was repealed the better would it be for the profession at large." Similarly, with the Midwives Act, the sooner it was amended the better. The toast of "The Guests" was proposed by Sir James Barr and responded to by Bishop Welldon, Dean of Manchester, who spoke of the close association of the Church with the medical profession, and thought that "as the inter-relation of the various parts of man's nature came to be better understood the medical and clerical professions would find themselves in closer union than ever. There were mysteries which remained for the present unsolved and the solution of those belonged partly to theirs and partly to his own profession." The health of "The President" was received with musical honours.

June 30th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

The Relations of the College of Medicine at Newcastle-on-Tyne to the University of Durham.

LAST week I alluded to the relations existing between the College of Medicine of Newcastle and the University of Durham, but a few more words as to the College will be in place. The College is an incorporated society registered under the Companies Acts. It is governed by the "Members" and the Council, the Council being elected by the "Members." There are 11 "Members" of the College, all of whom are engaged in the practice of medicine and all, with one exception, occupy a position on the teaching staff of the College. The "Members" are the ultimate authority under the articles of association and receive their remuneration for their services as teachers in the College out of the surplus of receipts over expenditure for the year. This surplus varies from year to year and consequently the remuneration of the "Members" also varies. It is this payment of "Members" out of the annual surplus which is the objectionable feature in the present constitution. The "Members," it is argued, and reasonably so, should receive a fixed remuneration for their services in the same way as the remainder of the teaching staff. For otherwise, the financial arrangements are bound to savour of the annual dividend order which the publication of a balance sheet does not dispel. And it is further obvious that so long as certain members of the teaching staff depend for their remuneration upon a surplus being realised and so long as the amount of remuneration depends upon the amount of the surplus so long will support from private individuals, public bodies, and Government be withheld. Division of profits can have no place in an educational institution which looks for external support. The best friends of the College have repeatedly and for a long time expressed the opinion that the "Membership" should be abolished and its place taken by some other form of government in which the division of the surplus among certain members of the teaching staff should be done away with. In the early days the existing arrangement was a perfectly sound one and, in fact, the only one possible, but those days have passed and new circumstances have arisen which require new methods. Whatever form of government the "Members" may think best, whether it be that they should aim at obtaining a Royal Charter or be content with something less, it is certainly urgent that some change in the direction indicated should be made, and that without delay. Once the "Membership" of the College is abolished and public control substituted the confidence of the public will be gained, with the result that public support will be forthcoming. And public support is badly needed at the present time for many purposes, but here one only need be mentioned—namely, funds to enable whole-time men to be appointed to the charge of the departments of physiology and pathology. The consideration of the provision of further facilities for teaching in these departments by the appointment of whole-time heads of the two departments is a matter requiring immediate attention from the College authorities. Physiology and pathology are subjects of such importance in the training of the present-day student of medicine that it is essential for them to be taught by men specially trained in these branches of learning, who will devote their whole time to their subject. At the moment the funds at the disposal of the authorities do not permit of this being done, but if the changes outlined above be made there can be no doubt that the money would be readily forthcoming, both for those and for other departments of the College.

The Infirmary and the College of Medicine.

Indications are not wanting of a tendency to separate the College from the infirmary in certain departments. It is essential for the best welfare of both institutions that the relation between them should be as close as possible. The connexion should, in fact, be so close that in certain departments the University teaching staff should be *ex-officio* members of the infirmary staff. When of the 13 professional members of the Council of the College nine are members of the infirmary staff and seven members of the house committee of the infirmary it should not be a difficult matter to come to some arrangement between the College and the infirmary whereby they will work together for the mutual benefit of both. It is inconceivable that certain subjects can be efficiently taught in the College, unless the material necessary for teaching purposes can be readily obtained from the infirmary and this is only possible when the two posts, the one at the College and the other at the infirmary in the same subject, are held by the same man.

A Correction.

In my letter published last week a paragraph reads: "The Council of the College of Medicine has decided to grant degrees in dental surgery ....."; whereas it should have read: "..... has decided *to recommend the Senate* to grant," &c. The resolution of the College of Medicine has been sent to the Senate but requires to be approved and passed by that body before the degrees can be instituted.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Cardiff Water-supply.

THE Cardiff corporation has for many years been fully alive to the importance of looking after the sanitary condition of the town. With commendable foresight an excellent supply of water was impounded many years ago in two reservoirs in the Taff Fawr Valley in Breconshire and the yield has been so plentiful that, except in the years 1887 and 1899, the supply has been quite sufficient for the needs of the inhabitants. The steady growth of the town has shown that the time has arrived for the construction of a third reservoir and a proposal is now being made to complete the works authorised as long ago as 1884. It is anticipated that the cost of this undertaking will be about £240,000 and will take some eight years to carry out. Apart from the anticipated needs of the town in the future the activity which has recently been shown by the Glamorgan county council in the direction of securing a general water-supply for the county has influenced the corporation in securing a further supply for the city while it is still available. Swansea and Merthyr

Tydvil are now well supplied with water, but other populous districts such as Pontypridd and the Rhondda valleys and some parts of the Aberdare valley are not so well circumstanced and the conditions of these mining localities are such that supplies must be sought outside the coal field where subsidences are not likely to occur. There is little doubt therefore that the county council will have to persist in its efforts to obtain a general supply.

Municipal Lodging-house for Swansea.

Although there has been for some years in Swansea at least one excellently managed large private common lodging-house the report of a committee of the corporation makes it clear that there is also room for a house managed by the corporation. At a recent visit of the committee to one house all the beds were found occupied and in addition 25 persons were found in the kitchen, and in another house no fewer than 45 persons were crowded together in the kitchen.

Newport Corporation Sanatorium.

The experiment made by the Newport corporation in treating six consumptive patients in a wooden pavilion in the grounds of the Isolation Hospital has been sufficiently successful to warrant the sanitary committee in recommending that six more beds shall be utilised at an additional cost of £300 per annum.

Death of Mr. Henry Cecil Moore.

The medical profession in Hereford has sustained a severe loss through the death on June 21st of Mr. H. Cecil Moore, the medical officer of health of the city, at the age of 72 years. Mr. Moore was the son of Brigadier-General Moore and was born in Lucknow. While still in his teens he joined the Royal Engineers and was attached to the forces engaged in the suppression of the Indian Mutiny. Subsequently he was connected with the Public Works Department and for two years was commanding Engineer and Governor of Perim Island. After service in Ireland ill-health necessitated his retirement from the army on half-pay in 1866. A few years later he decided to study medicine at the Queen's Hospital, Birmingham, and in 1872, having graduated as M.R.C.S. Eng., L.S.A., he was elected house surgeon to the Hereford Infirmary, a post which he held for seven years, when he started in private practice in the town. For a short time he was deputy medical officer of health of the Herefordshire combined sanitary district and for the past eight years had been medical officer of health of the city of Hereford. He took up the study of public health questions with remarkable keenness and was a careful student of current public health literature, with the result that he has left behind a most valuable series of annual reports. There is no doubt that if Mr. Moore had entered the public health service at the beginning of his medical career he would have risen to a very high position in the service, for his training as an engineer, his eminence as a geologist, and the skill with which he collated facts relating to his inquiries would have proved of the greatest assistance to him. For more than 20 years he was secretary of the Woolhope Field Naturalists' Club and during nearly the whole of that period edited the transactions of the club. Quite recently he was elected the President for the second time. The success of this club is in a great measure due to the energetic service which he gave to it. Mr. Moore is survived by his widow.

June 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal Victoria Hospital for Consumption, Edinburgh.

THE eighteenth annual report of this charity contains many interesting details of the work of the Victoria Dispensary, which has become an acknowledged model for the conduct of anti-tuberculosis operations. That part of the work which is done at the patients' own homes is of great value to the community, for not only is each one visited and given full instructions by a medical officer after study of his particular hygienic environment, but, whenever possible, other members of his family are submitted to examination. In this way a number of unsuspected cases have been discovered. Thus a single case brought 15 patients under the direction of the dispensary at an obviously more hopeful state of their disease than otherwise would have been the case. So wide are the operations of the dispensary that it notified 50 per cent. of all the cases in Edinburgh revealed by the first year's adoption of compulsory notification in that city. Its records show that in certain tenements every floor and almost every dwelling have their case of tuberculosis, and that patients who change their lodgings often assist in spreading the disease. The results have been most satisfactory with regard to patients treated early, and the recent addition of two new pavilions, which with a new dining-hall and administration block were opened by Mr. A. J. Balfour in October last, has considerably reduced the time which they must spend on the waiting list. The hospital has adopted a definitely graded system of work for suitable patients and is now desirous of founding a working colony which will raise supplies for the hospital by the labour of convalescent patients, as it is felt that such a provision for hardening them off before they return to their usual avocations will add considerably to the value of their treatment. A sum of £5000 would suffice to start the scheme.

Prevention of Cruelty to Children.

The annual meeting of the Glasgow branch of the Scottish National Society for the Prevention of Cruelty to Children was held last week. The annual report stated that the total number of cases reported and investigated had been 1870, an increase of 265 over the previous year. These cases involved 2187 parents or guardians, of whom 1998 were dealt with by warning and advice, and when other means failed by prosecution. Of the latter 153 were imprisoned or fined, and 36 were convicted and admonished by the court. The number of children involved was 5583, an increase of 904 over the previous year. The ordinary income amounted to £1386 and the legacies to £1009. The expenses for the year amounted to £1495.

Objection to the Word "Asylum."

At a meeting of the Glasgow District Lunacy Board last week a motion was brought forward that, except as required by statute, the asylums in the district should be called the "Glasgow District Mental Hospitals." It was pointed out that there was no objection to the word asylum *per se*, but it had come to mean in the minds of the public a place of detention, whereas the institutions were really places of healing. The motion was defeated.

Sanitary Inspectors' Association of Scotland.

The annual congress of the Sanitary Inspectors' Association has just been held at Dunfermline, about 50 members taking part. A civic welcome was extended to the visitors by the provost and thereafter various subjects were discussed, including Methods of House Construction, the Sanitary Aspects of the Housing Problem, and the Method of Dealing with Refuse by Fire.

Aberdeen Accident Inquiry Court: Attack on the Royal Infirmary.

At the Accident Inquiry Court held at Aberdeen on June 18th an inquiry was held in regard to the death of Hugh McLauchlan, aged 16 years, a labourer, residing at 414, George-street, Aberdeen. McLauchlan was employed at a local granite works and on May 11th he missed his footing and stepped into a tank of boiling water and was scalded severely. He was taken to the Royal Infirmary where he developed measles. He was then removed to the City Hospital for Infectious Diseases and died there on May 16th, the day of admission. Dr. A. G. Anderson, the resident medical officer at the City Hospital, questioned as to the condition of the boy on admission, stated that he was in a state of slight collapse but that there was no reason to think when he was admitted that the boy would die so soon. Mr. Aitken, who appeared for the relatives, addressed the jury and said that it seemed to him that there was room for the jury having something to say as to the removal of the boy. He thought it was for the jury to give their opinion as to whether it was a proper thing to remove this boy who was undoubtedly in a very low state—in a state of collapse—from the centre of the town to the City Hospital. He thought it was a most improper thing to do. The Fiscal said that the infirmary people did not get any notice of the attack that had been made upon them and held that such notice should have been given. The jury in their verdict said that they were of opinion that the medical officers of the infirmary should have been represented at the inquiry to give a reason why the boy was removed in such a precarious condition.

Forfarshire Medical Association.

A dinner was held on June 18th, Dr. A. Key of Montrose presiding. The guests included Professor J. Glaister of Glasgow and Dr. Angus Fraser of Aberdeen. Dr. Key, in his address, predicted the increase of small-pox owing to the numbers who took advantage of the "conscience clause," introduced, he said, by a facile Government at the bidding of a noisy lot of faddists. Dr. J. D. L. Macalister of Forfar was appointed President for the coming year.

Death of Dr. Andrew G. Dow.

Dr. Andrew G. Dow died at his residence, 26, South Tay-street, Dundee, on June 18th, after a brief illness.

June 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Auxiliary Lunatic Asylums for Ireland.

OUR county councils and boards of guardians are becoming every day more impressed with the necessity of making a wider provision for the victims of insanity and a more humane arrangement for the harmless lunatics who are now scattered through the various workhouses. After the passing of the Local Government Act the Roman Catholic Bishop of Ross pointed out to the Cork asylum committee that the incurable lunatic and the harmless pauper lunatic might be much more economically and, at the same time, humanely treated by the establishment of auxiliary asylums in the partially used workhouses or the workhouses that would be available if a proper amalgamation of unions took place, thus avoiding the expense of new and costly additions to the existing asylum buildings. This view of Dr. Kelly prevailed after some preliminary official resistance. The Youghal auxiliary was set up and it has satisfactorily realised the objects for which it was established. The same question is now being vigorously—even acutely—discussed in Clare county. There are 444 inmates in the district asylum at Ennis, while the requisite sleeping accommodation is but for 373. There are about 250 insane inmates in the Clare workhouse; and, accordingly, provision is needed in this county for a total number of nearly 700. An estimate has been obtained of the cost of the additions to the existing asylum which the accommodation of the whole number would require. The calculated amount is £45,994 and the transference of the 250 pauper lunatics to the central asylum would involve a considerable addition to the annual outlay. In presence of these facts the county council has considered the question of following the Youghal precedent. It passed a resolution a year ago in favour of taking over the Tulla workhouse as an auxiliary asylum. This involved the amalgamation of the Tulla union with an adjoining one and the Local Government Board ordered an inquiry into the feasibility, &c. The results are embodied in a letter to the county council—a document which is highly deserving of the attention of the county councils and asylum authorities throughout Ireland. The only argument against the dissolution of the workhouse is the hardship to the sick inmates. This would be minimised by a proper ambulance. The report goes to show that there would be a great saving effected by the adoption of the plan, even to represent a total saving of practically £120,000 capital in a single county. This report and its sequelæ should have influence on the future arrangements for the insane throughout Ireland.

Dublin Dairy Yards and Slaughter-houses.

The public health committee of the Dublin corporation had before it at its last meeting the following report made by its veterinary inspector, Mr. Watson, M.R.C.V.S., on the subject of a statement made by a Dr. Greene of New York, in reference to the Dublin dairy yards:—

> In a recent statement made by a Dr. Greene of New York, he suggested that the milk of our city, owing to the dirty conditions of the yards, was probably mixed with excreta of animals. My inspections lead me to think that Dr. Greene employs the colours of "The Jungle" to draw attention to his statements. He visited, as far as I know, four dairy yards. The first, it is admitted, was irregular; it was not, however, at the time of our visit being used for dairy cows. There were about 30 cows in the yard, all of which were dry and fattening for beef. The proprietor of this yard milks 200 cows for his milk-supply. These were away on grass on the occasion referred to. There was a milk store in connexion with the yard, which was scrupulously clean. The other yards did not call for any comment as to want of cleanliness or order; but in one, our American friend seriously criticised the architecture of the cow-house or shed, and I do not join issue with him, for it was an uncomely structure, but no matter how inartistic, if a shed is ample in air-space, light, and ventilation, and attention is paid to cleanliness, the milk-supply is not likely thereby to be contaminated, and that is my chief concern.

On June 27th four summonses were heard at the suit of the corporation against butchers for the use and occupation of private slaughter-houses. According to Mr. T. M. Healy, who defended the butchers, the corporation was trying in an unfair way to compel butchers to resort to the municipal abattoir, and the arguments of the defence prevailed, the summonses being dismissed in two cases and withdrawn in two cases, but the corporation received its costs.

Tuberculosis Exhibition Opened in Wicklow.

The Tuberculosis Exhibition was opened on June 23rd by the Countess of Aberdeen, who was accompanied by Sir W. J. Thompson. In the course of the proceedings enthusiastic promises of support to Lady Aberdeen's propaganda were made by the various speakers, one of whom, Mr. James Girnon, a member of the urban district council, made a most important speech. He stated that to his mind there were others besides the common people who wanted to be educated into a sense of the responsibilities which they owed to the country and the people. In this connexion he meant the responsible boards which were intrusted with the government of the country, and in the forefront of these he would place the Board of National Education. If the same neglect of the material wants of the young prevailed in any degree throughout the country as obtained in Wicklow it was no wonder that consumption spread throughout the land. The national school in Wicklow was condemned as insanitary 14 years ago by an inspector of the National Board, but from that day to this the National Board and the Board of Works had failed to carry out the building of the new schools. Until these boards were made amenable to the force of public opinion the health, education, and material interests of the people would be neglected. A local branch of the Women's Health Association was then formed, all the prominent ladies of the town and neighbouring district becoming members.

Report of the Veterinary Surgeon to Belfast Corporation.

The first annual report of Mr. J. A. Jordan, veterinary surgeon to the corporation of the city of Belfast, for the year ending April 30th, 1908, has just been published and is a very interesting document. He points out how unsatisfactory inspections of carcasses are (especially outside the city boundary) without the viscera, particularly in the case of tuberculosis. There are seven licensed private slaughter-houses in Belfast and three for the slaughter of swine, where, on an average, about 3000 cattle, 4250 sheep, and 7979 swine are annually slaughtered. It is curious that for the past ten years not a single seizure has been recorded. Mr. Jordan wisely advocates abolishing all such licences. There is one knackery in Belfast where about 500 horses are killed each year. Mr. Jordan is against any additional licences for such places being granted. As to pork, he recommends the establishment of a meat inspection depôt at each of the railway termini, through which all meat coming into the city by rail would have to pass, that coming by road to be taken directly to the inspection station. It is scandalous that pork not inspected in country districts finds its way into Belfast as bacon. In the Belfast pork market 18,330 carcasses were examined in the year, and of these three were wholly condemned, and 274 were passed after removal of diseased glands for tuberculosis; four were wholly condemned for other causes. During the year 57,956 animals (cattle, calves, sheep, goats, deer) were slaughtered at the abattoir, and of these 521 carcasses were partially or totally destroyed as being unfit for food. A certificate is given condemning the site of the existing Belfast abattoir signed by Dr. J. McCaw, president, Ulster Medical Society, Dr. C. J. Clibborn, Local Government Board Inspector, and Mr. H. W. Bailie, medical officer of health. In reference to suitable sites for the new abattoir Mr. Jordan recommends the present horse fair. A good regulation in Belfast is that all meat killed outside the city and brought into the city for sale must, before being sold or exposed for sale, be brought into the inspection station. A series of appendices are attached to an admirable report.

Memorial to Dr. Sidney Brice Smyth.

At a meeting of the friends and patients of the late Dr. Sidney Brice Smyth held in Belfast on June 23rd it was decided to raise a fund for the endowment of a cot in the Belfast Hospital for Sick Children as a fitting memorial of his life and the valuable work which he did in the hospital. An influential committee was formed and it was announced by the chairman at the conclusion of the meeting that the amount subscribed and promised up to date was £423, made up of sums varying from £25 to 2*s*.

British Medical Association: Ulster Branch.

At the thirtieth annual meeting of the Ulster branch of the British Medical Association held in Belfast on June 24th it was decided to ask the British Medical Association to hold its annual meeting in Belfast in 1909, and a general committee was appointed to make arrangements for this proposed meeting. Sir William Whitla has been nominated in the event as President-elect, and Dr. H. L. McKisack, Dr. Howard Stevenson, and Dr. C. E. Shaw as honorary secretaries.

The Belfast Hospital for Sick Children.

Dr. R. R. L. Leathem has been promoted to be physician to the Belfast Hospital for Sick Children and in his place Dr. James Colville has been elected assistant physician.

Birthday Honours.

The only Irish medical honour conferred on the present occasion is that of Dr. Peter O'Connell who is made a knight. He was for a time a member of the Belfast corporation and was elected by them as the first Roman Catholic high sheriff last year. He is surgeon to the Mater Infirmorum Hospital and a district surgeon to the police.

June 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Congress of French Medical Practitioners and the Reform of Medical Education in France.

THE Second Congress of French Medical Practitioners assembled at Lille on June 25th. The programme was a continuation of that which occupied the first meeting of the congress held in Paris last year, and included the reform of medical education, the freedom of the victims of industrial accidents to choose their medical attendant, and other matters. Last year's congress led to no practical results. A crowd of orators took the occasion to air a diversity of opinions in more or less violent language, with the result that the gathering, taking its tone from political meetings, came to resemble a somewhat rowdy trade union demonstration. However, the Government can no longer remain deaf to the oft-repeated complaint that the palpable defects in the official system of medical education are partly responsible for the discredit which has fallen upon the profession. On the other hand, so far back as June, 1905, the Minister of Public Instruction took the opinions of all the Faculties of medicine in the country as to what reforms were necessary, and in November, 1906, the Faculty of Medicine of Paris itself brought forward a complete scheme of reform. For this reason, immediately after the Practitioners' Congress in Paris, the Minister constituted an important commission to inquire into the reform of medical education. This body included professors, *agrégés*, and representatives of the medical associations. The commission sat for a year and ended its labours by presenting a long report compiled by Professor *agrégé* Teissier which appeared in my letter published in THE LANCET of May 16th last, p. 1449. It is thought that the Minister is waiting to deal with the report until the conclusion of the Practitioners' Congress, at which new motions were down for consideration. For some time past this question of the reform of medical education has been a fruitful cause of dispute. Dr. Roux, the director of the Pasteur Institute, which although independent of the Paris Faculty of Medicine exercises a very considerable influence, has published in *Le Temps* the text of a statement which he addressed to the Ministerial Commission to which I have alluded and of which he was a member. The commission did not support his conclusions and a great stir has been caused by their publication. He advocates the abolition of the system of *agrégé* professors, whom he would replace after the German model by *privat-docenten* with uncontrolled teaching powers who would be remunerated by their own pupils; these men would form a distinguished body of workers and the most successful teachers among them would be ultimately chosen for the chairs of the faculty after holding posts as assistant professors. It must be understood that this system finds most favour amongst the general body of medical men at the present day, for the existing machinery for the election of *agrégés* (*le concours d'agrégation*) has fallen into rank disfavour. Nobody is eligible for a professorship who has not passed a special examination, in which it is alleged that jobbery plays a considerable part, as in all medical examinations at the present time. These methods have had the effect of creating a privileged body, the members of which are elected without due regard to merit, and no man outside this ring can obtain an official post in the Faculty, however good a record of work he can show. It is contended that a body of *privat-docenten*, elected upon a more liberal basis regardless of persons, would prove infinitely more useful. Professor Bouchard has replied to Dr. Roux in another letter to *Le Temps*. It is an interesting contribution because it proclaims the principles controlling the guiding spirits of the faculty, which fully acknowledges that reforms are desirable provided that the existing state of affairs is allowed to remain unaltered. M. Bouchard thinks that the root of the whole matter is the Government's niggardly endowment of the Faculties, and he thinks the most urgent reform is the increase of the teaching staff and of its members' salaries. Speaking of the *agrégés*, he says that since their system of examination and admission was last revised the class of men who are elected differs very little from *privat-docenten*, since the examining body takes the candidates' original research work into its chief consideration. M. Bouchard gives the plainest proof that the faculty is not a fit body to reform itself, for it is in that very matter of the proper estimation of the merits of the candidates' work that the partiality of the jury is most apparent. If the second Practitioners' Congress starts anew a sufficiently energetic agitation in favour of abolishing the *agrégé* system it seems probable that the Minister will be obliged to act on it, and that the true reform of medical education, which in spite of the progress of the science of medince has undergone no change since 1823, will enter in a little time upon a new phase.

The Treatment of Vomiting in Tuberculous Patients.

At the Hospitals' Medical Society on June 19th M. Lion recorded his experiences with subnitrate of bismuth in the treatment of vomiting in tuberculous patients. He gives a morning dose of 20 grammes and has always found its administration for 12 consecutive days to be perfectly well tolerated. Good results are often apparent from its use from the first day, and the vomiting does not recur even after the administration has been discontinued. The treatment has no effect on the cough but when this is present it no longer causes vomiting and has another beneficial action in allaying the symptoms of painful dyspepsia. The only disadvantage which M. Lion has found from it has been the occurrence of a little diarrhœa in several cases.

State-Employed Workmen and the Campaign against Tuberculosis.

The Board of National Manufacturers, brought face to face with the constantly increasing ravages of tuberculosis in its workshops and factories, has hit upon the good idea of coöperating with the Association to Protect Children against Tuberculosis. This was founded by Professor Grancher and is presided over by Dr. Roux and concerns itself exclusively with prophylaxis, its method being to board out the healthy children of poor tuberculous persons in the families of country people. This saves the pocket of the patient and the health of his children. The adoption of these methods by the State Board of Manufacturers is a signal honour for the association.

Tuberculosis among Laundrymen.

On June 16th M. Landouzy communicated to the Academy of Medicine a capital study of the marked increase of tuberculosis among laundrymen, especially those living in the suburbs of Paris. He considers that these unfortunate men get infected from the linen of their Parisian clients; they then go into hospital, leaving their lodgings infected so that their successors contract the disease. Suresnes, Puteaux,

and Billancourt have become in this manner veritable hotbeds of tuberculosis. The only remedy is to insist upon the disinfection of the linen of tuberculous patients, and to effect this the notification of the disease is necessary. Unfortunately notification and the consequent disinfection subject the unfortunate patients to absolute persecution, for landlords and hotel proprietors alike give them notice to quit. But the danger to the rest of the community is becoming so serious that notification seems more and more to be a necessary evil. M. Lereboullet supported M. Landouzy's contention and so did M. Lancereaux, though he said that it was necessary to be quite clear as to the rôle played by alcohol in the etiology of tuberculosis amongst laundry workers, for many employers paid their workpeople, both men and women, in alcohol, or even kept a canteen in their establishment.

The Radio-activity of Thermal Springs.

It is a recognised fact that the therapeutic properties of warm springs are partly due to their radio-activity. On June 22nd M. Armand Gautier communicated to the Academy of Sciences a note by M. Garrigou who has recently demonstrated in a fresh manner the reality of this phenomenon as far as it concerns the warm springs of the Pyrenees. To do this he employed an ingenious photographic method. He inclosed a sensitive film in a hermetically sealed aluminium tube and immersed it into the water of the spring, with the result that the film was affected by the rays. When the experiment was repeated with a leaden tube, which is impermeable to the radium emanations, no impression was produced on the film. It stands to reason that in performing the first experiment the greater the radio-activity of the water the quicker the effect will be produced.

The Photography of Sounds.

M. Poincarré presented to the Academy of Sciences on June 22nd the results of researches upon the "photography of sounds" by MM. Georges and Gustave Laudet. These investigators, whose method is one of intensive reconstruction of speech by a mechanical device, have not before made public their photographic sound-records. The photographs which were shown at the Academy are remarkably clear and allow the phenomena of phonation to be analysed in a way hitherto unthought of. The smallest details of vocalisation, lisping, and breathing are exquisitely reproduced and vibrations are recorded of no greater range than 1-50000th of a millimetre.

Projected Visit of French Medical Men to London.

A visit of French medical men to London and the Franco-British Exhibition has been arranged at the invitation of the staff of the French Hospital in London, by one of its members, Dr. Leonard Williams, and other English medical men, with the assistance of Dr. Heuzé of Paris. The object of the trip will be to explore London with the greatest possible comfort and it will be less of a scientific expedition than an outing for medical men interested in all the arts. The party will leave Paris on Sunday, July 12th, and will return on the following Sunday evening; its members will have the opportunity of visiting the hospitals in the morning and will spend the afternoons in seeing the museums and public buildings. They will be "personally conducted" by a guide speaking French. The medical men who go will be able to take their wives and children, and the total expenses will not exceed 250 francs for each person. Dr. Heuzé, 10, Rue de St. Petersburg, Paris, will supply all information concerning the trip.

June 29th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Zürich Sanatorium for Consumptives.

THE ninth annual report of the sanatorium for poor consumptives of the Canton of Zürich, which is situated in the hills above Wald, has just been issued and contains some interesting details. During the last year 143 men and 159 women were treated, of whom 273 were suffering from consumption. The average stay was 139 days. 46 per cent. were in the first, 17 per cent. in the second, and 37 in the third stage (according to Dr. Turban's classification). 84 per cent., the usual percentage, were discharged in an improved condition, 70 per cent. being fully fit for work. The medical director, Dr. Staub, has made a very careful investigation with regard to patients under treatment at Wald during the years 1899 to 1905 and received answers from 90 per cent. of the patients. Dr. Staub has grouped them according to the stage of their disease. Of the patients treated in the sanatorium during the first stage 84 to 72 per cent. were still fit for work after periods varying from two to eight years, the percentage of the patients for 1899 being as high as 89. Of the patients in the second stage 53 to 31 per cent. were capable of undertaking their usual work; of those in the third stage only 33, 26, 24, 14, 24, 10, and 5 per cent. in the respective years. We thus have the clearest of evidence to show that for effective treatment patients should be sent to a sanatorium when in the first stage. A new wing is being built to receive children and £4000 towards the cost of £9000 necessary for the purpose was raised at a bazaar held in Zürich last year.

Cancer of the Uterus in Switzerland.

Cancer of the uterus causes about 300 deaths per year, or 99 per 1,000,000 inhabitants, in Switzerland. The number of deaths in the 30 years from 1876 to 1906 has increased from 2102 to 2136 and 2343 per decade, the total being 6581 deaths in 30 years. There has been no actual increase but a slight decrease, as the population is greater. The average age at death is 56 years. Statistics show that 8·15 per cent. of all fatal cancers (which numbered 37,387 in 30 years) are uterine and 16·49 of all fatal cancers occurring in women are uterine.

Zürich, June 23rd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Professor Erben on Ataxy.

A VERY interesting lecture on ataxy was delivered before the Medical Society in Vienna by Professor Erben in which he raised several new points as regards the physiological explanation of the condition. All experiments have shown the fact that equilibrium is maintained only by coöperation of three factors—the muscles, the joints, and the soles of the feet. The last are sensitive to all changes in the equilibrium of the body and give information as to whether the main weight of the body is projected towards the heel or the great toe in sagittal direction. The normal individual experiences variations of equilibrium of the whole mass of the body, but besides this the tabetic patient experiences also spontaneous movements of the joints which account for his abnormal swaying. These spontaneous movements of the joints are very important; they are often underrated in their effect. They are to be accounted for by loss or diminution of the deep sensibility of the affected joints. They appear only on voluntary muscular effort and disappear in joints where there is no active contraction of the muscles. They can be overcome by strenuous muscular effort and it is for this reason that many tabetic patients exhibit the peculiar striding gait, the powerful contraction of the flexor and extensor cruris muscles freeing the knee and the joints of the foot from their spontaneous movements. If a tabetic patient is allowed to touch the wall with one finger whilst he is being tested for Romberg's sign he still sways but does not lose his balance; the finger is insufficient to stop the involuntary movements of the joints. If an ataxic patient is made to stand with his legs wide apart and his eyes closed then an opinion may be obtained as regards his loss of plantar sensibility. If it is only slightly impaired very slight swaying is observed, mostly backwards and forwards. A lateral swaying shows that his deep sensation is much impaired and he can no more differentiate whether his right or left foot is bearing the main weight. If lateral swaying appears only when the base is narrowed by bringing the soles nearer to each other, it indicates that sensibility on one side is markedly diminished. Spontaneous movements of the joints are not pathognomonic for tabes, for they have been observed in various disturbances of sensibility of both cerebral and peripheral origin.

A Fatal Case of Pin-Swallowing.

A recent post-mortem examination of a girl, aged 20 years, who had succumbed to a protracted illness diagnosed as septicæmia, revealed some very interesting facts. The girl, who was a domestic servant, had been sent to hospital as she had attempted on several occasions to destroy

her life because she was subject to epileptic fits, which constantly lost her her situations. She had taken at different times phosphorus and caustic potash, and finally she resorted to swallowing pins. The last attempt consisted in swallowing two open safety-pins and five hairpins. Soon afterwards she complained of intense gastric pain with general debility. Her story was doubted, as x ray examination and prolonged careful search of the fæces showed no trace of a foreign body in her alimentary canal. Her mental condition necessitated her detention in the insane ward. Here she developed symptoms of septicæmia and an empyema of the right side was found. An operation was performed (re-rection of the rib and evacuation of the pus) but the patient gradually sank and died. The necropsy showed the following conditions. There were multiple abscesses of the brain, both lungs, and the spleen, in addition to a subphrenic abscess and a pleural empyema which communicated with each other by a hole in the diaphragm of the size of a half-a-crown piece. The point of a pin was felt in the left lobe of the liver, where it was bound down by firm adhesions to the stomach. This organ was then opened and its mucous membrane was found covered with small old hæmorrhages. Next to the pylorus the blunt end of a pin was visible. Its point was the object felt through the liver. The pin was about four inches long, similar to a hat-pin. In the lowest portion of the descending colon was an accumulation of scybala, and in them were found numerous similar pins and needles, together with a few hairpins. The entire ileum, jejunum, and part of the colon showed numerous small hæmorrhages, and in the cæcum several small abscesses of the intestinal walls were found. There were many adhesions between the intestines and the abdominal walls, generally at the site of perforations of the gut. The pins had all travelled down the alimentary canal except one which had become lodged in the stomach and liver. Two and a half years had elapsed since the first attempt to swallow needles, and it is very likely that none had left the body *per vias naturales*.

The Operation for Cancer of the Penis from a Modern View.

Docent Dr. Föderl at a recent meeting of the Gesellschaft der Aerzte showed a patient who had suffered from an ulcerated tumour of the penis a year and a half ago. He also showed the parts which were then removed from him. Dr. Föderl operated on the same principles as are followed in the operation for cancer of the mamma—namely, complete removal of the cancer and of the glands, if possible with the fat. He began by making a horizontal incision above the symphysis pubis, curving it both ways so that all the inguinal glands on both sides were easily extirpated. When the middle line was reached the incision was carried down to the penis, and then an oval incision around the penis was made. The urethra was isolated so that it could be implanted into the perineum, the corpora cavernosa were secured between ligatures and the root of the penis was then divided, whilst the dorsal lymph vessels, the glans, the cavernous bodies and the penis minus the urethra were removed *en bloc*. The experience of surgeons shows that even if the carcinoma has been situated at the glans itself a deep amputation of the penis is soon followed by a recurrence, or rather by what ought to be termed local metastasis in the scar, due to a lymphatic carcinomatous infection of the dorsal lymph vessels, which occurs very quickly. Malignant tumours of the penis must be dealt with in the same way as cancer in any other organ. The result of the operation was very good (freedom from recurrence for a year and a half at present). The patient has fair control over his urethra, which was implanted near the anus.

Vienna, June 27th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Scientific Research in India.

THINGS are happily very much changed since the time when Ronald Ross uttered his exceedingly bitter cry as to the scientific medical research in India. Then a medical man in any of the public services who showed a bent towards original investigation was regarded suspiciously as a crank. Such things must always be; the genius must be ahead of his times or where would genius find its opening? The main body of thought follows the pioneer but slowly; and yet it may be said that if the Imperial mills work slowly they certainly grind small. The inertia of a machine-like Government is enormous and it takes time to set it in motion; once in action, however, the results are usually thorough. A satisfactory proof of this is afforded by the report of the Advisory Committee for the Tropical Diseases Research Fund for 1907. The committee was formed in 1904 and consists of members whose names are the best guarantee for efficiency and enlightenment. The death of Sir M. Foster made a serious breach in its ranks, but his place has been filled worthily by Dr. J. Rose Bradford. The funds at the disposal of the committee for the year under report amounted to £3075. The functions of the committee are to administer such funds to the best advantage and to collect and publish the reports of the various research laboratories. The committee further advises Government on questions of tropical hygiene and keeps in touch with the various workers, and while in no wise hampering originality suggests lines of activity and affords assistance and advice. The present report embodies a very large and important mass of original work. The campaign against tropical diseases has been fairly opened all along the line. Every parasitic enemy of the human race now finds a group of specialists opposed to it. New titles are bestowed on the leaders. We read, for instance, of a professor of helminthology, of a protozoologist, and of an arthropodologist, who, by the way, is Lieutenant-Colonel A. W. Alcock, I.M.S., so well known as a naturalist in India. Naturally the committee complains that the funds are insufficient for all it would like to do. Nevertheless the beginning is very good and the rest will come. Reports are to hand from every corner of the world—British Guiana, Ceylon, the Malay States, Africa, the West Indies, the Straits Settlements—all send their quota, and the success already obtained is real and important.

Sanitary Reform in Bengal.

The committee of the Calcutta Trades Association has addressed the Secretary to the Government of Bengal, Municipal Department, in terms of approval of the proposed improvement of the sanitary services in India. The committee of the association observed that the sanitary boards which it is proposed to establish are in addition to certain officials to include in their number one or two non-officials who are to be natives of India. The committee considers that while it is desirable to have the non-official community represented on these boards it would be a grave mistake in the case of many towns and cities to exclude European non-officials. In regard to the staff of medical officers of health in this country the committee is in entire accord with the suggestion that its hands should be strengthened. The committee of the association also supports the suggestion that a special European officer of health should be allotted to every town with a population of 100,000 and that for every additional 100,000 inhabitants there should be an additional European assistant health officer.

Cholera and the Mohmand Field Force.

Owing to the outbreak of cholera among the troops several changes in regiments forming the first three brigades had to be made almost at the eleventh hour. The Northumberland Fusiliers, originally in the 1st Brigade, have not been able to take their place in their brigade. A few cases of cholera occurred among them, but the latest reports fortunately show that they are now free from cases. The Guides Infantry, who returned from Landi Kotal with cholera, have also been prevented from going. Their place was to have been taken by the 4th Gurkhas, but the latter regiment, which was railed to Peshawar from Abbottabad, arrived with three cases of cholera and shortly after developed two more. Their place was accordingly taken by the 19th Punjabis from the 4th Brigade. The most serious outbreak has, however, occurred among the Munster Fusiliers, as I mentioned in my last letter. It has prevented that gallant regiment from taking any part in the expedition. Fortunately the mortality has been unusually low, and it is now hoped that the worst is over. The West Yorkshire Regiment, which arrived from Nowshara almost at the same time as the 4th Gurkhas, marched out at once to Shabkadr. Several of the units infected with cholera are in camp near Haraina, about ten

miles from Peshawar, along the Shabkadr Road, the remainder being in the vicinity of Shabkadr and Mutti Moghal Khel. As far as Peshawar city is concerned there are now few cases of cholera occurring, and every precaution is being taken both in the city and the cantonment to prevent any spread of the disease.

Cholera and Plague in Calcutta.

Calcutta was spared a cholera epidemic during the late Ardhodaya Jog festival, thanks to the precautions of its sanitary services, but the disease made its appearance some time later and is now raging in the city, but is confined chiefly to its northern half. The outbreak, according to the municipal health authorities, is not so intense in its severity as that of January, 1907, but seems to be part of an epidemic extending over a large part of Bengal. It is probably associated with the lowness of the water in the Hooghly, which is found on analysis to be more than usually contaminated at the present time. On the other hand, so far as the plague scourge is concerned, it is satisfactory to learn that the outbreak this year proves to be very limited in extent. We have arrived at what is usually the period for the height of the plague mortality, but the returns for the last two weeks show that the numbers of deaths daily do not amount to even half of what they were at this time last year.

New Standard Plan for Barracks.

The new barracks for British infantry which have recently been built by the Military Works Services at Jubbulpur, Ahmednagar, and Quetta are a great improvement on the old form and will serve as a model for all future buildings of this character in this country. In the past the general practice was to build barracks in the form of a cross, in the two ends of which were the dormitories with the dining-rooms, &c., across the centre. Under this arrangement the cook-house was placed at some considerable distance from the dining-rooms, so that not only did the food arrive cold but the kitchen itself was not under proper supervision. Under the new system of building four dormitory blocks are placed at the corners of a parallelogram, each dormitory accommodating a half company. In the middle of the parallelogram there stands a long building, in the centre of which are placed the two kitchens and at each end are the dining-rooms, each of which accommodates one company. The dinners are served through a hatch connecting the dining-rooms with the kitchens and arrive hot, while the kitchens themselves can be looked after in a most satisfactory manner. The kitchens will be equipped with Warren's cookers in place of the old smoky "chulas," while the dining-rooms will be provided with fly-proof doors and windows.

Tour of an American Man of Science.

Dr. G. A. Dorsery, American ethnologist, curator of the anthropological section of the Field Columbian Museum, Chicago, is visiting Darjeeling, Assam, Chota Nagpur, Madras, and Ootacamund to see various hill tribes. He thence journeys through South India, crosses to Colombo in Ceylon, and will subsequently proceed to Sumatra, Java, Celebes, and Borneo. When his work there is completed he expects to make a long stay in the Philippines where three of his assistants are working. He will then return to America.

Wild Animals in the Central Provinces.

In the Central Provinces human mortality caused by wild animals has decreased. Tigers, however, claimed more than a fair percentage of the mortality. In Chanda there were 21 such fatalities. There are said to be three man-eaters in Balhar Tahsil. A case is reported where a Gond was mauled by a tiger and rescued by a band of villagers and then snatched away from the rescuing party on its way home. The destruction of a man-eater panther in the Panabaras Zamindari brought about a decrease in deaths in the vicinity. Snakes killed 996 persons, which is reported as being the lowest figure returned in any one of the last seven years. Experiments are still proceeding with the Lauder Brunton treatment of snake-bite by incision and application of permanganate of potassium. There is an increase of about 1000 in cattle mortality, tigers being credited with most of the kills, with panthers a good second, and then wolves. The reward for the slaying of panthers has now been increased to Rs. 25.

May 21st.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Royal Prince Alfred Hospital.

THE twenty-fifth annual meeting of the governors of the Royal Prince Alfred Hospital, Sydney, was held on April 27th, His Excellency Sir Harry Rawson, the State Governor, presiding. Professor Anderson Stuart, the chairman of the hospital board, read the annual report. The number of in-patients treated was 4553 and the number of operations was 5 per cent. higher than the previous year. The new department for therapeutic inoculation was hardly in full swing but promised good results as an adjunct in the treatment of disease. An important amendment of the by-laws permits senior members of the staff to serve 18 years instead of 12 as formerly, and every member of the medical staff must retire at 60 instead of 65. He claimed that no more complete operating facilities existed in any part of the world than those provided by the new theatres at the hospital.

Hospital Saturday.

The annual collection in aid of the Sydney hospitals was taken on May 2nd and the streets were invaded by lady collectors who "held up" every passer by. The effort was remarkably successful, a sum of £6380 being realised. Over 10,000 more coins were received than on the last occasion; they consisted of 13 sovereigns, 46 half-sovereigns, 347 half-crowns, 230 florins, 1286 shillings, 7687 sixpences, 4209 threepenny-pieces, 58,983 pence, and 37,512 halfpence. Altogether four and a half tons of copper coins were collected.

Melbourne Milk-supply.

The present season is the driest that Victoria has experienced for many years and pasturage is very deficient, with the result that starving stock are being deported to New South Wales. The *Argus* has recently raised the question that the visible supply of milk is insufficient in the metropolitan area and that extensive adulteration must exist in order to make up the shortage. Leading dairymen, while not prepared to admit that adulteration is practised to the extent that the *Argus* figures indicate, agree that it would be a good thing at the present time to encourage a much stricter inspection so that offenders may be caught. The estimate referred to was that the daily consumption of milk in Melbourne was 5425 gallons more than would be accounted for by the milk produced in, or forwarded to, the city. Mr. Cameron, head of the dairy supervision branch of the Agricultural Department, in a newspaper interview, stated he thought it would be unreasonable to say that the whole of an apparent shortage was made up by adulteration. The price of milk had advanced from 4*d.* to 5*d.* per quart and probably less milk would in these circumstances be consumed. He further said, "I feel satisfied that milk cannot be obtained from sound healthy cows under wholesome and sanitary conditions and be distributed by the present expensive methods at a reasonable business profit for a price of less than 4*d.* per quart in normal times." A point emphasised by Mr. Cameron was the wasteful method of distribution. "A street containing 50 houses," he said, "will under present conditions be visited by five or possibly ten different milk carts, all of which are practically doing the same work." Medical men have also taken the matter in hand, for a special meeting of the Victorian branch of the British Medical Association was held on May 2nd to consider the milk-supply of Melbourne in relation to the prevention of infantile mortality. Lady Talbot had been much interested in the matter and at the request of the council the meeting was attended by His Excellency Sir Reginald Talbot, the State Governor, and Lady Talbot. The principal motion was proposed by Dr. J. W. Barrett and was as follows:—

That this meeting approves of the establishment of a small milk-supply for educational purposes.

The following scheme was suggested:—

(*a*) That milk shall be obtained from an approved dairy or dairies specially inspected by the Agricultural Department and shall be rapidly conveyed to the bacteriological laboratory of the university; (*b*) that the milk be then pasteurised or refrigerated or otherwise treated by approved methods; (*c*) that the milk so treated be distributed in

sterilised bottles to the Women's Hospital, the Children's Hospital, and the various crèches, and if there be a surplus to such approved people as may desire to have it; (*d*) that the treatment of the milk be under the general supervision of a small committee of medical men, including Dr. Bull, the director of the laboratory.

This was seconded by Dr. J. W. Dunbar Hooper who recently attended the International Congress at Brussels and presented a report on Infantile Mortality to the Federal Government specially recommending the adoption of some measures resembling those in force at such institutions as the "Gouttes de Lait." A committee consisting of Dr. Hooper, Dr. Jeffreys Wood, Dr. Cole, Dr. W. A. Wood, Dr. Argyle, and Dr. Bull was appointed and it was also decided to ask Dr. Norris, Chairman of the Board of Public Health; Dr. Cherry, Director of Agriculture; and Dr. Jamieson, city health officer, to act if they were willing. The committee has already held an initial meeting at which Lady Talbot was present. The question of finance appeared more difficult than was at first supposed and it is probable that the Government will be approached with a request for assistance.

Medical Man Killed.

A sad accident occurred near Traralgon, in Victoria, by which Dr. R. H. Horne lost his life. Dr. Horne, in company with his wife and a lady friend, were returning home in a motor-car, and on approaching a bridge it is supposed the steering gear became disarranged. The car collided violently with a fence and all the occupants were thrown out. Dr. Horne was seen to be severely injured and was conveyed to his house, where he died on the following day from internal injuries. The late Dr. Horne had a strongly adventurous personality. He served with Cameron's Scouts as a private in the South African War and was severely wounded through the lung. He recovered and returned to the war after being invalided home. Subsequently he travelled in China with an insurance agent and was stoned by a mob. For this the Chinese Government paid him £1000 damages. He then bought a practice at Traralgon where he has since resided.

A Cancer "Cure."

Some two or three years ago Sir John Madden, the chief justice of Victoria, startled the community by speaking and writing very strongly in favour of one Davis who for years has claimed to cure cancer by means of a special application of his own. This action was the more dramatic because "Professor" Davis has on more than one occasion attracted the attention of the Crown law authorities in connexion with the death of patients while under his treatment. The matter was brought under the notice of the Premier and a board was appointed to inquire into the alleged efficacy of Davis's "cure." The constitution of the board was partly professional and partly political. It was made up of Dr. Norris (Chairman of Board of Public Health), Mr. R. Hamilton Russell (surgeon to Alfred Hospital), Dr. Mollison (pathologist to Melbourne Hospital), Dr. Cherry (Director of Agriculture), and Mr. Duncan Turner, with Messrs. Edgar, Watt, Boyd, McBride, and Britters. The evidence taken was principally from patients of Davis. The board has presented an interim report signed by all the members except Mr. Turner. The report states that the substance employed is a caustic and destroys the tissues with which it is in contact. There was no evidence to show it possessed any selective action and no evidence to show that, as claimed, it was in any way unique or different from old and almost discarded agents of like nature. Although Davis denies that his preparation contains arsenic he does not deny that arsenic has been found in a series of post-mortem examinations in the tissues of patients who have died under his treatment. He offers no explanation except that it may be produced by decomposition. This the board rejects as absurd. None of the cases diagnosed as cancer by the medical members of the board before treatment by Davis have so far been successfully treated; and the same applies to the cases presented while under treatment and recognised unequivocally as malignant. There were five such cases and three have since died. Mr. Turner signs a dissenting report, in which he thinks that there is evidence of a selective action in Davis's remedy and that the report is generally unfair to Davis. The board has adjourned for six months in order to allow time for observation of cases now under treatment by Davis.

May 30th.

Obituary.

BERTRAM LOUIS ABRAHAMS, M.B., B.Sc. LOND., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO WESTMINSTER HOSPITAL; JOINT LECTURER ON MEDICINE AT WESTMINSTER HOSPITAL MEDICAL SCHOOL, ETC.

THE painfully unexpected announcement of Dr. Bertram Abrahams's death upon June 21st has caused a truly deep regret amongst his circle of acquaintance, whilst to those of a closer intimacy his decease is indeed an affliction, made only more grievous by its occurrence at a time when the worthy reward of unremitting hard work was well within his grasp. Dr. Abrahams was the only son of Mr. L. B. Abrahams, head-master of the Jews' Free School in Spitalfields, and like his father took the keenest interest in the social welfare of his community. He was born in 1870 and received his education at the City of London and University College schools, from which he entered University College for his medical training. He was a brilliant student from the first, obtaining triple distinction as exhibitioner, scholar, and gold medallist in his college, where he obtained the posts of demonstrator of anatomy and physiology. At the University of London he fulfilled the promise of his class work, gaining fresh laurels with each examination, which included first-class honours at matriculation and at the intermediate examinations for science and medicine, whilst he took his B.Sc. degree in 1890 by an examination that won him similar honours and the University scholarship in physiology. Five years later he became Bachelor of Medicine at the University of London, with honours in medicine and forensic medicine, after he had visited the continent for further study. He then held the post of house physician in his own hospital and in 1896 became a Member of the Royal College of Physicians of London, his Fellowship following in 1904, when he became an examiner in physiology to the Conjoint Board. Westminster is the hospital which mourns him especially, for he was appointed medical registrar there in 1899 and since that time has done splendid teaching work in its school as lecturer in physiology, pathologist, sub-Dean, lecturer in medicine, and assistant physician to the hospital. He was chosen Arris and Gale lecturer by the Royal College of Surgeons of England in 1906-07.

Dr. Abrahams excelled as a teacher and was one of the most successful tutors in London, for he had the right love of his work and a clear method of imparting his knowledge that rendered the most difficult subjects straightforward to his pupils. It is not surprising that a man who took such pains with the students of his hospital began to reap his reward in an increasing consulting practice at a comparatively early age, and both in his hospital and private work his opinion upon a case of difficulty repeatedly justified the confidence that was placed in it. He was a man of wide interests outside medicine, a prominent Freemason, and an enthusiastic cricketer. In the craft he was a P.G.J.W. of Surrey, and his love for athletics was testified by his interest in the Jewish Lads' Brigade, which he took an active share in founding; he attended its summer camp for many years as principal medical officer. He was at one time medical inspector of schools to the London County Council. The name of his friends was legion, for he had an attractive manner and a sense of humour.

Dr. Abrahams's most important contributions to literature were his articles in Allchin's "System of Medicine" on Myalgia, Myositis Ossificans, Medical Applications of Electricity, and Diseases of the Mouth, Pharynx, and Œsophagus; his contributions to the "Medical Annual" and to periodicals included work on Rheumatism, Chorea, and Diseases of Metabolism. He was a member of the principal English medical societies, and several of his studies are included in the Transactions of the Clinical Society in 1898 to 1899. There is no doubt that his devotion to work overtaxed his strength and hastened his death which was due to kidney trouble. The knowledge of this complaint had sent him to Egypt for several winters past. 12 years ago he married the only daughter of Mr. A. J. Simmons, who survives him with a daughter, their only child.

Sir William H. Allchin writes: "My acquaintance with the late Dr. Abrahams dates from the year 1899 when he was

appointed as medical registrar at the Westminster Hospital. It was soon evident that the brilliant record of academic success, both at the University and at University College, with which he came to us was fully justified, for he at once took his place amongst us as a physician whose knowledge was based upon the soundest and most recent physiological and pathological principles, which his inborn ability and clinical acumen had developed and applied. And so his professional reputation remained with us to the end. But there was a good deal more to be said of Abrahams than that he was a good and able physician. He was a good and able all-round man. To the thorough understanding of the fundamentals of the science and art he was pursuing he added an exceptional power of imparting to others the knowledge he possessed, and this in the clearest language, whether written or spoken. He thus possessed all the essentials for a successful teacher, and it is not going too far to say that for some years past a very considerable share of the medical teaching at the Westminster Hospital has devolved upon him. He liked it and threw himself into it with keenness, whilst a considerable gift of satire that was never unkindly added a zest to his instruction that served to hold the students' attention and gave interest to his remarks. His appointment as assistant physician to the hospital in 1903 increased his opportunities for teaching both in the out-patient room and in the school, and as one of the lecturers in the department of medicine he delivered a course on Applied Physiology, in which the perversions of physiological processes in disease generally were outlined, constituting a most valuable introduction to the subject of medicine proper. No one was more capable of doing this than Abrahams, and it is hoped that his lectures were left in a sufficiently prepared state for publication, as it is known was his intention. But there was something over and above Dr. Abrahams's ability as a physician and excellence as a teacher that endeared him to his colleagues and students and that made him at once so acceptable to most of those whose acquaintance with him was even but slight. There was a straightforward and clear-headed directness that induced a belief in him directly; there was no pettiness or self-interest in the way he regarded and dealt with the many questions upon which differences of opinion must of necessity exist among a number of men, combined though they be in the pursuit of a common purpose. His ready perception of the important points of any question at issue and the consistency with which he maintained his opinion when once it was formed rendered him an invaluable supporter to any cause he undertook, and made his advice sought for by many of his seniors, who knew that his actions might be relied on to back up his words and that whatever happened Abrahams would go straight and not fail him. The thoroughness with which he threw himself into whatever he undertook, whether it was the school cricket club or the Jewish Lads' Brigade, which he helped to found, or the graver questions of professional politics as they presented themselves at the College of Physicians, where though a Fellow of but a few years' standing he was already taking up a position, contributed in no small degree to the popularity of which his pleasant kindly manner laid the basis. No man is indispensable and few are they who cannot be replaced, but it is unlikely that for some time at least the niche that he has left in the entire community of the Westminster Hospital and School will be filled by one so many-sided, by so loyal a colleague and friend, and by so cordially esteemed a man as Bertram Abrahams."

THOMAS GARRETT HORDER, M.R.C.S. ENG., L.R.C.P. EDIN.

WE announced last week the death of Mr. T. Garrett Horder, a well-known and zealous worker in the cause of medical reform, which took place on June 15th at his residence at Cardiff. Mr. Horder, who was 70 years of age, received his education at the City of London School, whence he proceeded to the London Hospital and obtained the Membership of the Royal College of Surgeons of England in 1866. In 1873 he became a Licentiate of the Royal College of Physicians of Edinburgh and after acting as house surgeon and secretary to the National Sanatorium at Bournemouth he went to Cardiff, where he took an active interest in politics and greatly interested himself in municipal affairs. For many years he served on the school board, where he did good work by his advocacy of open-air recreation and gymnastic instruction for school-children. Though unsuccessful in his attempts to obtain a seat on the borough council (he fought three elections) he never ceased to work for the good of his borough. His great interest in general and municipal politics, however, did not detract from the keenness with which he endeavoured to uplift and to organise his own profession, as his various contributions to the columns of THE LANCET and to the medical press generally sufficiently testify. As honorary secretary of the Hospital Reform Association he worked hard for the cause which he had so much at heart, and the address on Hospital Reform which he delivered before the Manchester Medico-Ethical Association some ten years ago[1] shows that he had a thorough grasp of his subject, though we were not always able to endorse all his suggestions for reform. He was an ex-President of the Cardiff Medical Society and a member of the council of the Medical Defence Union and joint honorary secretary of the Ethical Section of the British Medical Association. He was also public vaccinator for Cardiff. The deceased gentleman, whose death will be deeply lamented by all members of his profession no less than by his many lay admirers, was a brother of the Rev. W. Garrett Horder, the hymnologist, and leaves to mourn their loss a widow and one son.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following degrees were recently conferred:—

M.D.—R. E. Whitting, King's.
M.C.—E. H. Douty, King's.
M.B., B.C.—R. G. Fearnsides, Trinity Hall; B. B. Hinde, Emmanuel; R. C. Priest and K. D. Pringle, Gonville and Caius.
M.B.—J. H. B. Martin, Emmanuel; and S. L. Walker, Sidney Sussex.
B.C.—H. S. Berry and H. J. Cardew, Clare; J. B. Mennell, Pembroke; G. D. Alexander, R. Burgess, and H. N. Little, Gonville and Caius; J. B. Banister, Jesus; and J. F. Windsor, H. Selwyn.

At examinations for medical and surgical degrees (Easter term) the following candidates were successful:—

FIRST EXAMINATION.

Part I., Chemistry and Physics (Elementary).—K. B. Aikman, Clare; C. S. Atkin, Caius; G. L. Attwater, Pembroke; J. Aydon, Clare; D. C. G. Ballingall, Emmanuel; H. A. Bell, Jesus; G. A. G. Bonser, St. John's; H. J. Bower, Emmanuel; R. C. Bradford, Pembroke; R. St. L. Brockman, Caius; A. E. Brown, Christ's; E. H. P. Brunton, Trinity; S. Butt, St. John's; R. N. B. Byatt, Clare; F. L. Cassidi, Corpus Christi; G. M. Chapman, Caius; W. H. W. Cheyne, Trinity; M. T. Clegg, Jesus; G. D. Compston, Trinity Hall; E. H. Copeman, Christ's; A. C. M. Coxon, Magdalen; H. E. Creswell, Caius; J. L. Crommelin-Brown and H. V. Deakin, Trinity; B. C. Ewens, Caius; E. Ezra, Peterhouse; W. D. Galloway, Clare; N. Garrard, Pembroke; N. Gray, Emmanuel; S. W. Green, Clare; J. R. Griffith, Christ's; H. G. Hooper, Emmanuel; B. L. Hutchence, Caius; C. C. Kerby, Trinity; G. C. King, Caius; C. Lambrinudi, Christ's; F. C Lapage, King's; F. G. Lescher and G. A. Lilly, Caius; W. B. Loveless and L. A. McAfee, Pembroke; H. D. McCall, Christ's; H. Y. Mansfield, Emmanuel; J. A. Martin, Pembroke; C. F. Mayne, Caius; T. W. Melhuish, Pembroke; I. Mortada, Trinity Hall; W. New and N. F. Norman, Downing; H. G. Oliver and D. S. Page, Caius; A. A. Pallis, Trinity; C. F. Pedley, Jesus; R. A. Peters, A. C. Pickett, and S. G. Platts, Caius; E. L. K. Sargent, St. John's; C. J. Scholtz and D. N. Seth-Smith, Emmanuel; L. R. Shore and W. S. Sodden, St. John's; C. B. Spence, Pembroke; E. C. W. Starling, Jesus; R. J. Tweedy, Caius; C. F. Verrall, Trinity; P. Wallace, King's; and C. A. Weller, B. Whitehead, H. C. Whittall, and A. G., Williams, Caius.

Part II., Elementary Biology.—K. B. Aikman, Clare; S. G. Askey, St. John's; M. L. Atkinson, Emmanuel; J. Aydon, Clare; D. C. G. Ballingall, Emmanuel; P. H. Berry, King's; W. G. Bigger, Queen's; G. A. G. Bonser, St. John's; R. J. Boyd, Sidney Sussex; R. C. Bradford, Pembroke; J. C. Bramwell, Trinity; E. J. Y. Brash, St. John's; R. St. L. Brockman, Caius; A. E. Brown, Christ's; E. H. P. Brunton, Trinity; E. N. Butler, Clare; F. L. Cassidi, Corpus Christi; C. M. Chapman, Caius; W. H. W. Cheyne, Trinity; A. C. M. Coxon, Magdalen; E. D. D. Davies, Christ's; H. V. Deakin, Trinity; G. D. East, Emmanuel; B. C. Ewens, Caius; E. Ezra, Peterhouse; W. D. Galloway, Clare; N. Garrard, Pembroke; N. Gray, Emmanuel; J. R. Griffith and W. T. Hare, Christ's; A. D. Haydon, Caius; C. Helm, King's; G. J. Hill, Peterhouse; A. N. Hooper, Emmanuel; A. M. Humphry, Trinity; T. Jones, Sidney Sussex; F. G. Lescher, Caius; H. A. Lucas, B.A., Trinity; L. A. McAfee, Pembroke; H. D. McCall, Christ's; M. MacGregor and A. R. MacMullen, Caius; H. Y. Mansfield, Emmanuel; F. D. Marsh, Trinity; W. H. Marshall, Pembroke; C. F. Mayne and A. T. Miller, Caius; I. Mortada, Trinity Hall; R. F. S. Morton, Trinity; H. G. Oliver, Caius; P. R. T. Owen,

[1] THE LANCET, Dec. 19th, 1896, p. 1742.

Christ's; D. S. Page, Caius; A. A. Pallis, Trinity; A. E. Panter, Clare; R. A. Peters and S. G. Platts, Caius; A. St. Johnston, Trinity; R. L. K. Sargent, St. John's; C. J. Scholtz and D. N. Seth-Smith, Emmanuel; J. R. Sharp, Caius; T. W. Sheldon, Emmanuel; L. R. Shore, W. S. Soden, and G. W. Spencer, St. John's; E. C. W. Starling, Jesus; M. T. W. Steedman, Clare; H. M. Stephenson, Caius; A. V. Stocks, St. John's; W. J. F. Symons, Sidney Sussex; R. S. Taylor, King's; J. B. Thomson and J. M. Thorburn, Trinity; E. H. Thurston, Caius; C. F. Verrall, Trinity; P. Wallice, King's; C. A. Weller and B. Whitehead, Clare; and K. J. Yeo, Emmanuel.

SECOND EXAMINATION.

Human Anatomy and Physiology.—W. B. Alcock, Trinity Hall; L. A. P. Anderson, Emmanuel; G. V. Bakewell, Clare; H. G. Baynes, B.A., Trinity; C. H. Crawshaw, Christ's; J. Ellison, B.A., and G. V. Fiddian, Downing; J. P. Hill, M.A., Caius; R. S. Kennedy, Christ's; D. N. Macleod, Caius; O. de B. Marsh, B.A., Pembroke; W. M. Oakden, Peterhouse; T. H. Oliver and J. H. Pendered, Caius; M. J. Petty, Downing; P. W. Ransom, Pembroke; W. A. Russell, B.A., and C. M. Ryley, Emmanuel; F. B. Smith, King's; J. R. A. D. Todhunter, B.A., Caius; C. Worster-Drought, Downing; and C. R. Wright, Christ's.

THIRD EXAMINATION.

Part I. Pharmacology and General Pathology.—G. D. Alexander, B.A., Caius; H. L. Attwater, B.A., Pembroke; M. W. Baker, St. John's; J. B. Banister, M.A., Jesus; R. L. Barker, B.A., Caius; H. S. Berry, M.A., Clare; A. M. Bodkin, B.A., and R. G. Canti, B.A., King's; H. J. Cardew, M.A., and H. T. Depree, B.A., Clare; E. St. G. S. Goodwin, B.A., Caius; R. H. P. Hick, B.A., Christ's; A. C. Jepson, B.A., Pembroke; K. T. Khong, St. John's; R. L. Ley, B.A., Pembroke; H. N. Little, B.A., Caius; E. Mellanby, B.A., Emmanuel; J. B. Mennell, M.A., Pembroke; G. Moore, B.A., Clare; P. A. Ople, B.A., Caius; W. M. Penny, B.A., Jesus; R. L. Rawlinson, B.A., Trinity; F. H. Robinson, B.A., Queens'; A. L. Sachs, M.A., Pembroke; F. P. Saunders, B.A., Clare; C. F. Searle, B.A. Pembroke; H. E. S. Stiven, B.A., F. R. Thornton, B.A., and G. B. Wainwright, B.A., Trinity; and M. H. Whiting, B.A., Downing.

TRINITY COLLEGE, DUBLIN.—At the Final Medical Examination held in Trinity Term the following candidates were successful:—

Part II., Medicine.—William H. M'Carthy, George B. M'Hutcheson, John L. Phibbs, Dixie P. Clement, David G. Madill, Richard P. Hadden, Alexander K. Cosgrave, Ernest C. Lambkin, John A. W. Panton, Samuel F. A. Charles, Gordon A. Jackson, Gerald G. Mecredy, James E. M'Causland, George Halpin, Thomas Ryan, Alfred H. Smith, and John C. Baker.

THE HOSPITAL OF ST. JOHN OF JERUSALEM.—On June 24th the Bishop of Gibraltar preached the anniversary sermon at the commemoration services of the Grand Priory of the Order of the Hospital of St. John of Jerusalem in England, held at St. John's Parish Church, Clerkenwell. After an inspection of the improvements in the recently restored ancient priory crypt of the church the annual general assembly of the members and associates was held at St. John's Gate.

STATE SANATORIUMS FOR CONSUMPTION.—The Grimsby union has been asking various boards of guardians in the West of England to pass a motion expressing the opinion that the State should provide district or county sanatoriums for consumption. The majority of the boards appear to have decided, as the Bridgwater guardians did at their meeting on June 24th, that as they had already provided a special place for the treatment of local cases of consumption there was no need to take any action in the matter.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The sixty-seventh annual meeting of this association will be held on July 23rd and 24th at 11, Chandos-street, Cavendish-square, London, W., under the presidency of Dr. Charles A. Mercier. On July 23rd there will be a discussion on a proposition of Dr. D. G. Thomson:—

That for the more efficient teaching and training of the coming generation of alienists in psychiatry the Medico-Psychological Association—in the first instance through its education committee—consider some scheme for post-graduate teaching and training, with or without the imprimatur of a diploma given after such a course (with or without examination) with a view to its being brought before the universities and other qualifying and teaching bodies.

On July 24th Dr. Robert Jones will initiate a discussion on "The Case against Dementia Præcox" and Dr. Lewis C. Bruce will introduce a discussion on Folie Circulaire and Manic-depressive Insanity—their Identity? and the Relation of the Depressed to the Elevated Stage; Dr. Alan McDougall will read a paper on the Principles of the Treatment of Epilepsy; and in the afternoon Lady Henry Somerset has consented to open a discussion on Some Aspects of Inebriety; Dr. Frank Ashby Elkins will read a paper entitled "Asylum Officials—is it necessary or advisable for so many to live on the premises?" and Dr. Horatio B. Donkin will give an account of the work of the Royal Commission on the Care and Control of the Feeble-minded. The annual dinner will take place on July 24th, in the Grand Hall, Criterion Restaurant, Piccadilly-circus, London, at 7 for 7.30 P.M.

THE League of St. Bartholomew's Hospital Nurses has sent a further sum of £500 towards the building fund of the proposed new Nurses' Home.

PROPOSED PUTNEY HOSPITAL.—The Duchess of Albany opened on the first, and the Duchess of Marlborough on the second day, a three days' bazaar at Putney last week in aid of the above hospital which is to be endowed under the will of the late Mr. Chester when built. Nearly £2300 were taken at the bazaar, which was very largely attended by the inhabitants of Putney who are anxious to have a hospital to supply the local needs of their rapidly growing district.

FATSHAN HOSPITAL, CHINA.—A new hospital in connexion with the Wesleyan Mission has been opened recently in Fatshan, Canton, South China, when Dr. W. J. Webb Anderson, the medical superintendent, conducted the dedicatory service. The new buildings consist of an out-patient hall, a block in which about 20 in-patients can be accommodated, two operating theatres, and nurses' quarters. The land occupied is about two and a half acres. The money to defray the cost of the hospital was raised almost entirely by Dr. Webb Anderson himself. There is a staff of five native Chinese female nurses. Native medical students who intend to qualify as medical missionaries receive their training in the hospital, afterwards proceeding to England to finish their education. Last year nearly 9000 paying patients were treated, besides a very large number of non-paying ones, and 386 operations were performed, so that the hospital may be said to have proved its utility from the beginning.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE.—The eleventh annual dinner of the West London Hospital and Post-Graduate College was held on June 23rd at the Empire Rooms, Trocadéro Restaurant, Piccadilly-circus, London, Mr. L. A. Bidwell, surgeon of the hospital and dean of the college, being in the chair. The hospital contains 160 beds; 2500 patients are treated in the hospital and over 34,000 new out-patients are seen annually. Post-graduate instruction has been given at the hospital since the year 1893 and 1339 medical men from all parts of the world have attended the classes. Of these 389 have been officers in the naval, army, and Indian medical services and 330 others have come from the colonies and foreign countries. The practice of the hospital is well adapted to the needs of medical officers of the Royal Navy and Royal Army Medical Corps and Indian Medical Service and the colonial services who have obtained leave for further professional study. Arrangements are made for all the necessary special classes required and the certificate of attendance at the college during such leave is recognised by the Admiralty, the War Office, and the India Office. The laboratory has been completely reorganised and placed in the hands of the pathologist, Dr. G. C. Low. The list of past and present members of the hospital numbers 1609. The toast of "The Imperial Forces" was proposed by Dr. H. J. Davis and was responded to by Inspector-General J. Porter, the Director-General of the Medical Department of the Royal Navy, who gratefully acknowledged the services rendered to naval medical officers by the West London Hospital Post-Graduate College. The toast was also spoken to by Surgeon-General Sir A. H. Keogh, the Director-General of the Army Medical Service, who said that by the sympathy of the medical profession there was now no dearth of candidates for the Army Medical Service; those applying were of high professional attainments and were also socially well qualified for the functions which they had to perform in the spheres allotted to them. He reminded his hearers that in time of war the whole medical profession must, and would, render assistance. The chairman proposed "The West London Hospital and the Post-Graduate College," and detailed the steps taken to secure success in post-graduate teaching. This toast was responded to by Mr. G. F. Marshall for the hospital and by Lieutenant-Colonel H. R. Woolbert, I.M.S., for the Post-Graduate College. To Dr. E. A. Saunders the toast of "The Visitors" was intrusted, and it was acknowledged by Sir Roper Partington. Mr. Aslett Baldwin proposed the health of the chairman, who suitably replied.

MEDICAL GOLFING SOCIETY.—This society held its annual tournament on June 18th at Guildford, by kind permission of the Guildford Golf Club. In Class I. (handicaps 12 and under) in the 18 holes match play *v.* Bogey, H. Tilley and D. Findlay tied with 2 up. In Class II. (handicaps over 12) F. J. Smith was first with 4 up and G. W. Dawson was second with 2 up. The scores for the best last 9 holes *v.* Bogey in the first class were H. Tilley 2 up, and D. Findlay, J. A. Willett, K. W. Goadby, and C. J. Marsh 1 up. In the second class the prize for the best last 9 holes *v.* Bogey was won by W. C. Bluck with 1 up. The "Henry Morris" challenge cup, awarded for the best score against Bogey under handicap, the winner also receiving the Medical Golfing Society gold medal, went to F. J. Smith for the second time with 4 up. The foursome sweepstake resulted in a tie between J. H. Drysdale and C. M. Hinds Howell and Clifford Price and J. H. Whitaker who returned scores of all square *v.* Bogey.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of this society was held at 6, Catherine-street, Strand, London, W.C., on June 19th. There were present: Dr. F. de Havilland Hall, in the chair; Mr. Frederick Wallace, Dr. St. Clair B. Shadwell, Dr. F. C. Martley (Dublin), Dr. H. A. Sansom, Dr. F. S. Palmer, Mr. J. Brindley James, Mr. W. Thomas (Birmingham), Dr. M. Greenwood, Dr. W. A. Dingle, Mr. F. S. Edwards, Dr. W. G. Dickinson, Dr. W. Knowsley Sibley, Dr. F. J. Allan, and Dr. J. B. Ball. Although the epidemic of influenza seems to have subsided the sickness claim lists of the society still show signs of its malevolence and the total disbursements under this head are somewhat beyond the expectation. On the other hand, the mortality experience of the society has been exceptionally good and there is every reason to hope that with the advent of warm summer weather the outgo of the society will as usual fall below the average and quickly make up for the heavy claim account of the winter and spring. The secretary is Mr. F. Addiscott, 33, Chancery-lane, London, W.C.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—An extraordinary general meeting of this society took place at its offices, No. 1, Upper Montague-street, Russell-square, London, W.C., on June 19th. The meeting was presided over by Dr. George Reid, medical officer of health to the Staffordshire county council and President of the society, who was heartily congratulated by the meeting on his return to his official duties after a long and serious illness. Resolutions were passed unanimously by which the membership of the society will be limited in future to two classes—viz., Fellows and Associates. It was also agreed that the Fellowship of the society shall be open to the following: Medical officers of health, acting or retired, whether in the British Isles and dependencies or elsewhere; medical officers (sanitary) of the navy and army (at home or abroad); all registered medical practitioners holding a Diploma in Sanitary Science, Public Health, or State Medicine, under Section 21 of the Medical Act, 1886; all medical inspectors of the Local Government Boards or other Government departments of England and Wales, Scotland, and Ireland; and medical officers appointed by education authorities. The confirmatory meeting will be held in the law courts at Cardiff on July 17th next.—The members of the Midland branch of the society met recently at the Foleshill Infectious Hospital, Coventry, by special invitation of the president, Dr. J. Orton. After inspecting the new hospital, which is regarded as a model one, the members held their business meeting and elected the following officers for the coming session:—President: Dr. R. Green (King's Norton). President-elect: Mr. F. H. May. Vice-Presidents: Professor A. Bostock Hill, Dr. J. H. H. Manley, Mr. H. May, and Dr. Orton. Council: Dr. T. Ridley Bailey, Dr. Sidney Barwise, Dr. G. Reid, Dr. P. Boobbyer, Dr. H. Malet, Dr. E. H. Snell, and Dr. J. Robertson. Honorary Treasurer: Professor Bostock Hill. Honorary Secretary: Dr. Snell. Representatives: Professor Bostock Hill and Dr. Manley. The most important item of business was the consideration of the extraordinary step taken by the Bilston urban district council in dismissing Dr. Ridley Bailey, medical officer of health of Bilston, from his position as medical superintendent of the fever hospital. Dr. Ridley Bailey is an ex-president of the South Staffordshire division of the British Medical Association and also an ex-president of the Incorporated Society of Medical Officers of Health. The fact that he has done excellent service as medical officer of health and as superintendent of the fever hospital at Bilston and that there have been no complaints as to the manner in which he has discharged his duties appears to have been admitted by those members of the council who supported this ill-advised motion, and the only reason brought forward in support of it was that the two appointments should not be held by one officer. The separation of these two offices is directly opposed to the best interests of public health and public convenience. The dismissal of a public officer in such circumstances and without clear reasons must have the effect of a vote of censure for which there is no possible justification, and from reports which are prevalent in the locality there appear to be urgent reasons in favour of an immediate public inquiry into the exact circumstances that have led up to the extraordinary step which was taken at the meeting. The following proposition was carried unanimously:—

That this branch desires to express its indignation and astonishment at the extraordinary step taken by the urban district council of Bilston with regard to the appointment of their medical officer of health as superintendent of the fever hospital. The members of this branch feel that such a step casts a slur, not upon the medical officer of health, but upon the urban district of Bilston, and they feel confident that under the extraordinary circumstances of the case no medical man of any standing whatever in his profession would be found to accept the position thus made vacant.

PRIZE DISTRIBUTION AT ST. GEORGE'S HOSPITAL.—The prizes were presented to the successful students at St. George's Hospital on June 24th. The senior physician, Dr. H. D. Rolleston, having referred to the close connexion between the hospital and the school and to the interest which the governors had always taken in the medical education afforded at the hospital, called upon the Earl of Plymouth, who is one of the treasurers of the hospital, to distribute the prizes. Lord Plymouth, in congratulating the prize-winners, referred to the exceptional opportunities for gaining experience and tuition in their profession which are afforded to the medical students in the large hospitals of this country, and considered that such educational work was worthy of public support. The senior surgeon, Mr. C. T. Dent, proposed a vote of thanks to Lord Plymouth and expressed his misgivings as to the result if our hospitals ever came to look for their support to the rates. The vote having been duly seconded was passed unanimously.

THE ROYAL SANITARY INSTITUTE.—The twenty-fourth Congress of the Royal Sanitary Institute will be held at Cardiff from July 13th to 18th, under the Presidency of the Right Hon. the Earl of Plymouth. In the section devoted to sanitary science, which will be presided over by Dr. D. S. Davies, medical officer of health of Bristol, Dr. H. M. Richards, medical officer of health of Croydon, will introduce a discussion on Medical Inspection of School Children, and among the subjects to be dealt with at the eight special conferences held in connexion with the congress are Notification of Births, Regulations affecting the Transit and Sale of Food, and Meat and Milk in their Relation to Animal Tuberculosis. In connexion with the congress a health exhibition of apparatus and appliances relating to health and domestic use will be held as practical illustration of the application and carrying out of the principles and methods discussed at the meetings. Full particulars can be obtained from the Secretary, Royal Sanitary Institute, Margaret-street, London, W.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Milk Control (Scotland) Bill.

Mr. WATT has presented a Bill in the House of Commons "to amend and extend existing legislation relating to the milk-supplies of the rural and urban districts of Scotland." It was read a first time. The honourable Member has the support in this matter of Sir ANDREW TORRANCE, Mr. FINDLAY, Mr. MCCALLUM, Mr. BARNES, Mr. CHARLES PRICE, Mr. SUTHERLAND, and Mr. HALLEY STEWART.

Children and Alcohol.

An attempt was made by Mr. WEDGWOOD in the Standing Committee of the House of Commons on the Children's Bill on Tuesday, June 30th,

to put a legislative check on the practice of giving gin and other intoxicating liquors to infants prevalent amongst certain sections of the poorer classes. The honourable Member moved the adoption of a new clause to carry out this purpose. It ran as follows: "If any person give, or cause to be given, to any child under the age of five any intoxicating liquor, or if the parent or guardian or the person having charge of such child permit such liquor to be given, except upon the order of a fully-qualified medical practitioner or for some urgent cause, he shall, on summary conviction, be liable to a fine not exceeding five pounds." The honourable Member found sympathy with the object he had in view and it was stated that there was a good deal of expert medical opinion behind the proposal. However, some members of the committee took the view that the proposal was going too far in advance of public opinion. The clause was ultimately rejected by 21 votes to 20.

Indecent Advertisements.

The Joint Committee of both Houses of Parliament which has been investigating the subject of lotteries and indecent advertisements has now concluded taking evidence. It is considering the terms of its report.

HOUSE OF COMMONS.

WEDNESDAY, JUNE 24TH.

Escaped Lunatics.

Mr. REES asked the Secretary of State for the Home Department whether in view of the murders perpetrated, as was conjectured, by escaped lunatics who could not under the Lunacy Acts be retaken if they evaded recapture for 14 days, and in view of the condition of the law in this behalf under which a duly certified lunatic, dangerous to the community at large, became a free man if he could successfully secrete himself for a fortnight, he would consider the propriety of amending the statute concerned to the end that escaped lunatics might be lawfully recaptured and detained pending recertification.—Mr. GLADSTONE replied: The position is not quite that suggested in my honourable friend's question. It is true that 14 days is the limit of time within which a lunatic can be recaptured by the authorities or the servants of the institution from which he has escaped without a fresh order and certificate, but there is already full power under the provisions of Section 13 of the Lunacy Act, 1890, to deal with a lunatic not under proper care and control and other sections 15 and 16 of the same Act to deal with a lunatic wandering at large. Additional powers for dealing with urgent cases are given by Sections 20 and 21 of the same Act. In the opinion of the Lunacy Commissioners, with which I agree, there is no need for any amendment of the law such as is suggested by my honourable friend.

The Vaccination of Teachers.

Mr. RAMSAY MACDONALD asked the President of the Board of Education whether before issuing the new code he would reconsider the wording of the provision relating to the vaccination of teachers, with a view of making it clearer than it was that the Board of Education really meant that teachers having conscientious objections to being vaccinated should have their scruples respected by local education authorities.—Mr. RUNCIMAN replied: I have no power to require local education authorities to appoint or to refrain from rejecting any particular candidate, but certain alterations have been made in the Code with a view to removing the misconception which seems to have prevailed that the Board considers that the employment of unvaccinated teachers should be avoided.

THURSDAY, JUNE 25TH.

Prevention of Tuberculosis in Scotland.

Mr. GULLAND asked the Secretary for Scotland whether he was aware of the improved attitude of public opinion in Ireland on the subject of prevention of tuberculosis, due to the work of Lady Aberdeen; whether he was aware that public opinion in Scotland was maturing in favour of legislation; and whether he would introduce for Scotland a measure on the lines of the Tuberculosis Prevention (Ireland) Bill.—Mr. SINCLAIR replied: I am aware of the fact as stated and will keep the matter in view, but I may refer my honourable friend to the Local Government Board's circular of March 10th, 1906, and to the Public Health Amendment (Scotland) Act, 1907, from which it will be seen that every phase of pulmonary phthisis is already administratively provided for in Scotland by the existing public health legislation of that country. I may add that the Local Government Board are shortly to issue a second memorandum indicating the progress that has been made in the administrative control of the disease during the last two years, and the Board has already consented to the adoption of the Compulsory Notification Act by nine local authorities.

Condensed Skim Milk.

Answering Mr. FLYNN, Mr. MASTERMAN (Parliamentary Secretary to the Local Government Board) stated that he was not aware that there was a widespread system of scientific adulteration carried on in Holland and Belgium as regarded condensed skim milk. The article itself was very cheap. Samples were taken at the ports of entry by the customs officers with a view to preventing condensed skim milk from being introduced without being properly labelled, and the Local Government Board had lately prepared regulations under the Public Health (Regulations as to Food) Act of last session, which had already been issued in draft, and provided for unsound food of all kinds being examined and dealt with at the port of entry.

MONDAY, JUNE 29TH.

Telephones and Disease.

Mr. LONSDALE asked the Postmaster-General whether his attention had been called to a report by Dr. Francis J. Allan, medical officer of Westminster, with reference to the presence of disease germs in telephone mouth-pieces; and whether any steps were taken to disinfect telephones at public call offices under the control of the Post Office.—Mr. BUXTON replied: My attention has been called to the statement by Dr. Allan, which was not communicated to the Post Office but was published in THE LANCET. No trace of disease germs appears to have been found on five out of the six call-office telephones tested by Dr. Allan and the circumstances with regard to the sixth instrument, which is understood to be one in use at a railway station, appear to be quite exceptional. A special inquiry as regards the possible spread of infection by call-office telephones was made three years ago by the City medical officer of health, and a considerable number of call-office telephones were tested with the result that they were found to be free from disease germs. Steps are taken for regularly cleansing the telephones in public call-offices, and suggestions for an improved method of disinfection are under consideration. The whole matter is under careful consideration.

Mr. LONSDALE: Is the right honourable gentleman aware that certain eminent medical authorities are of opinion that in the absence of disinfection tuberculosis and diphtheria may be transmitted by the mouthpieces?—Mr. BUXTON: They are disinfected. We are considering whether we cannot have a better method of disinfection. I shall be very glad to receive any communication from any medical officer who has views on the subject.

Milk Legislation.

Mr. EDWARD STRAUSS asked the President of the Local Government Board if he could inform the House whether his Milk Bill was yet framed, and when he would introduce it.—Mr. MASTERMAN (who answered on behalf of Mr. BURNS) said: The Bill is being prepared, but I cannot at present fix a date for its introduction.

The Portsmouth Dockyard Surgery.

Mr. T. F. RICHARDS asked the First Lord of the Admiralty how many cases of accident at the Portsmouth dockyard had been dealt with by the medical officers and by the surgery attendants respectively during the last six months; and what were the actual hours the medical officers were supposed to be in attendance at the dockyard surgery.—Mr. MCKENNA furnished the following written reply: During the past six months 5189 cases of accident have been treated at the dockyard surgery. The surgery attendants supply first-aid only. The medical officers are responsible for all treatment and there is therefore no separate list of cases treated by attendants. A medical officer is in actual attendance in the dockyard surgery from 9 A.M. till noon, and from 2 P.M. till 5 P.M. (bell-ringing). During the remainder of the 24 hours a medical officer is available at his official residence inside the dockyard.

TUESDAY, JUNE 30TH.

Medical Attendance for Postal Employees.

Mr. WILES asked the Postmaster-General whether, having regard to recent cases brought under his notice in which certificates of duly qualified medical practitioners, stating reason for sick absence of postal employees, had not been accepted by the department, he would state when he intended to put into operation the recommendations contained in the Hobhouse Committee's Report that free medical attendance should be provided for postal employees who resided in districts outside the four-mile radius.—Mr. BUXTON replied: I hope to bring into force the recommendation of the Select Committee respecting free medical attendance at home for persons living outside the visiting area of their medical officer on Oct. 1st next. It was not possible to bring this concession into force at the same time as the other concessions recommended by the committee on account of the complicated nature of the arrangements and the requisite notices to the medical men that were necessary for giving effect to it.

Telephones and Disease.

Sir EDWARD SASSOON asked the Postmaster-General whether he had read the report of Dr. Allan, the medical officer of health of the city of Westminster, relative to the liability of the users of telephones to contract tuberculosis; whether he was now convinced of the danger to public health to which his attention had already been drawn; and whether he would insist upon the adoption of the system of flat mouthpieces, such as obtained in France with no disadvantage to the public service.—Mr. BUXTON answered: I have read the report of Dr. Allan, which was not communicated to the Post Office but was published in THE LANCET. Steps are taken for the regular cleansing of Post Office public telephones and suggestions for improved methods of disinfection are under consideration. Many appliances for attachment to telephones in order to prevent the danger of infection have been examined in connexion with the Post Office telephone system, but their use is open to many objections. Washing with disinfectants is, in the opinion of medical experts, including Dr. Allan, the most effective safeguard.

The Statues on the British Medical Association Building.

Mr. SLOAN asked the Secretary of State for the Home Department whether his attention had been called to the character of some of the statues on the new building of the British Medical Association now in the course of erection in the Strand; and what action, if any, he intended to take in the matter.—Mr. GLADSTONE (by written answer) replied: I am not officially the arbiter either of taste or morals and I have no control over the decoration of private buildings unless they violate the law. Were it otherwise I should see no reason for interference.

Mr. HORNIMAN further asked the right honourable gentleman whether he proposed to call for a report from the Commissioner of Police on the statues, nude and otherwise, ornamenting or disfiguring the streets and open spaces, as well as public and other buildings in London, and as to their effect on public morals.—Mr. GLADSTONE answered: No, sir.

The Notification of Births Act.

Mr. ACLAND ALLEN asked the President of the Local Government Board whether his attention had been drawn to the fact that on April 9th a certified midwife was convicted under the Notification of Births Act for failing to notify the birth of a child, whilst no proceeding was taken against the father; and whether, in view of the fact that under the Act parents were responsible in the first instance for the notification of births, he would consider as to the advisability of issuing a circular to local authorities drawing their attention to the responsibility of parents in the matter.—Mr. MASTERMAN sent the following written reply in the name of Mr. BURNS: My attention has not been drawn to the particular case mentioned in the question. The Act, however, imposes the duty of notifying a birth alike on the father if he is actually residing in the house when the child is born, and on any person in attendance on the mother at the time of the birth or within six hours after it. It will be seen, therefore, that it is always the duty of the person in attendance to notify the birth

although it is provided that a person shall not be liable to a penalty for failing to do so if he had reasonable grounds to believe that notice had been duly given by some other person. I issued a circular to the local authorities shortly after the passing of the Act in which I drew attention to the duties in this matter of the father and of the persons in attendance on the mother.

THE NEW IRISH UNIVERSITIES AND THE GENERAL MEDICAL COUNCIL.

The Standing Committee of the House of Commons which is charged with the consideration of the Irish Universities Bill on June 26th dealt with the clause which gives the new universities representation on the General Medical Council.

The clause as originally drafted ran as follows:—

"The governing body of each of the two new universities shall be entitled to choose one representative to be a Member of the General Council constituted by the Medical Acts; and section seven of the Medical Act, 1886, shall be read and have effect as if the two new universities were included therein in the place of the Royal University of Ireland."

Mr. BIRRELL moved as an amendment to insert the following provision in the clause: "Each of the two new universities is hereby empowered to hold qualifying examinations in medicine, surgery, and midwifery for the purpose of registration under the Medical Acts as if each of those universities had been a university in the United Kingdom legally qualified at the passing of the Medical Act, 1886, to grant diplomas in medicine and surgery, and the provisions of Part I. of that Act and any enactment amending the same shall be read and have effect accordingly."

The right honourable gentleman stated that the clause was to give a representative to each of the new universities on the General Medical Council. Representation had been given on the General Medical Council to the new universities in England such as the Universities of Liverpool and Leeds. Of course, it was right that the new universities should be empowered to hold qualifying examinations in medicine, surgery, and midwifery. It was necessary to give this power by express enactment and therefore he moved his amendment. The clause had been drawn on the same lines as clauses in the various Acts setting up new universities in England.

Mr. C. C. CRAIG thought that the Chief Secretary might have taken this opportunity of telling the committee what he meant to do with the Royal College of Surgeons in Ireland.

The CHAIRMAN (Mr. J. W. WILSON): Order, order. That cannot be discussed now.

Sir WILLIAM COLLINS said that the General Medical Council was already an unwieldy body, and now it was proposed that two members should be added to it to take the place of one. The Chief Secretary to the Lord Lieutenant was doubtless aware that the diploma of public health, or as it was sometimes called sanitary science, was now given by most of the bodies giving medical qualifications. He did not know whether the wording of the amendment which concerned medicine, surgery, and midwifery would include the granting of diplomas in public health. Certainly the new bodies in Ireland ought to be brought into line with others and he hoped that he would receive an assurance that they should not be precluded from granting these diplomas.

Mr. BIRRELL promised to look into the point with reference to diplomas in public health. He did not think it would be right that the new universities should be excluded from granting them.

The amendment proposed by Mr. BIRRELL was then inserted in the clause without a division.

On the question that the clause as amended should stand part of the Bill,

Mr. MOORE expressed the fear that the additional representation which the clause gave would disturb the balance of the General Medical Council. It seemed to him that by a side wind the committee was altering the constitution of that body without consulting it as to the right way to proceed. It seemed to him that the committee was asked to assume without inquiry that the medical qualifications of these two new universities were to be up to the standard of the General Medical Council. The Act of Parliament allowed the General Medical Council to make that inquiry for itself.

The clause was ultimately agreed to without a division.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

CAMERON, JOHN, M.D. Edin., D.Sc. St. And., has been appointed Lecturer on Anatomy in the Medical School of the Middlesex Hospital.

DOWLING, EDWARD ALFRED GRIFFITHS, L.R.C.P. Lond., M.R.C.S., L.D.S. Eng., has been appointed Honorary Dental Surgeon to the Bristol General Hospital.

GILBERT, WILLIAM, M.B., Ch.B. Glasg., has been appointed Senior House Surgeon at the Provincial Hospital, Port Elizabeth.

GRAHAM, CECIL I., F.R.C.S. Eng., has been appointed Assistant Surgeon for Diseases of the Ear, Nose, and Throat to St. Mary's Hospital.

HEATH, PHILIP MAYNARD, M.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Metropolitan Hospital.

ILES, ARTHUR ERNEST, L.R.C.P., M.R.C.S., has been appointed House Surgeon at the Bristol General Hospital.

MAYNARD, R., F.R.C.S. Eng., has been appointed Senior House Surgeon at the Bristol General Hospital.

RUDGE, FREDERICK HENRY, L.R.C.P. Lond., M.R.C.S., has been appointed House Physician at the Bristol Royal Infirmary.

SHORT, L. J., M.B., B.S. Lond., has been appointed Assistant House Physician at the Bristol General Hospital.

TOMLINSON, P. S., L.R.C.P. Lond., M.R.C.S., has been appointed Casualty Officer at the Bristol General Hospital.

WALES, E. G., M.B. Cantab., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Downham Market District of the county of Norfolk.

WALLACE, A. F., M.B., Ch.B. Aberd., has been appointed House Surgeon to the Johannesburg Hospital.

WILLCOX, JOSEPH WILLIAM JAMES, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed House Physician at the Bristol General Hospital.

WILSON, J., L.R.C.P. & S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Dumbarton District of the county of Dumbarton.

YOUNG, ROBERT ARTHUR, M.D., B.Sc. Lond., F.R.C.P., has been appointed Honorary General Physician to the City of London Lying-in Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYR COUNTY HOSPITAL.—Resident House Surgeon. Salary £70 per annum, with board and residence.

BERMONDSEY INFIRMARY, Lower-road, Rotherhithe, S.E.—First Assistant Medical Officer, unmarried. Salary £170 per annum, with rations, washing, apartments, and attendance.

BIRMINGHAM, UNIVERSITY OF.—Walter Myers Travelling Studentship. Value £150 for one year.

BRADFORD UNION HOSPITAL AND WORKHOUSE.—Assistant Resident Medical Officer. Salary £100 per annum, with rations, apartments, and washing.

BRENTWOOD, ESSEX COUNTY ASYLUM.—Fourth Assistant Medical Officer. Salary £150 per annum, with board, attendance, lodging, and washing.

BRIDGWATER HOSPITAL.—House Surgeon, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

BRITISH MEDICAL ASSOCIATION.—Assistant Medical Secretary. Salary £500 per annum.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

CANCER HOSPITAL, Fulham-road, London, S.W.—Director of Cancer Research and Pathological Department. Salary £600 per annum. Also Assistant Anæsthetist. Salary 25 guineas per annum.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance, &c.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C. —Honorary Assistant Anæsthetist.

CHESTER, CITY OF.—Assistant Medical Officer of Health. Salary £250 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, residence, and washing.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Resident Medical Officer for four months, renewable. Salary at rate of £50 per annum, with board, lodging, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with rooms, board, washing, and attendance.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician. Salary £25, with board, residence, laundry, &c.

EDINBURGH, UNIVERSITY OF.—Lectureship in Diseases of Tropical Climates. Salary £300 per annum.

ENNISKILLEN, FERMANAGH COUNTY HOSPITAL.—House Surgeon. Salary £72 per annum, with board, apartments, and washing.

FROME UNION.—Medical Officer. Salary £90 per annum and fees.

HAMPSTEAD GENERAL HOSPITAL.—Gynæcologists, Surgeon to the Throat and Ear Department, and Physician to the Skin Department.

HEREFORDSHIRE GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, and washing.

HERTFORD GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

HESTON AND ISLEWORTH URBAN DISTRICT COUNCIL.—Assistant Medical Officer of Health. Salary at rate of £200 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton. —Resident House Physicians for six months. Salary £25. Also Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Surgeon to Out-patients. Also Anæsthetist.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—House Surgeon. Salary £65.

LANCASTER, ROYAL LANCASTER INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

LEEDS MATERNITY HOSPITAL.—Honorary Medical Officer.

LEEDS PUBLIC DISPENSARY.—Two Resident Medical Officers. Salary £100 per annum, with board and lodging. Also Two Honorary Assistant Dental Surgeons.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

LONDON HOSPITAL.—Clinical Pathologist. Salary £350 per annum.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon, non-resident, for six months. Salary at rate of £50 per annum. Also Anæsthetist.

MANCHESTER, UNIVERSITY OF.—Senior Demonstrator in Physiology. Salary £150, rising to £250 per annum.

MIDDLESEX HOSPITAL W.—Emden and Hollins Scholarships in the Cancer Research Laboratories, value £100 and £105 respectively.

MILE END OLD TOWN INFIRMARY AND WORKHOUSE, Bancroft-road, E. —Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL, Sunderland.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Junior Resident Medical Officer. Salary £50 per annum, with board, lodging, &c.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Bacteriology. Salary £250 per annum.

NORWICH, CITY OF.—Assistant Medical Officer of Health and Bacteriologist. Salary £130 per annum and allowances.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £30 per annum, with board, residence, and washing.

ORKNEY, PAPA WESTRAY PARISH COUNCIL.—Lady Medical Officer and Public Vaccinator. Salary £35 per annum, with fees, house, and garden.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Senior Obstetric Assistant (female). Salary £50, with board, lodging, and washing. Also Anæsthetist.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £60 per annum, with board, lodging, and washing.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, London, E.C.—Honorary Assistant Surgeon.

ST. MARY'S HOSPITAL, London, W.—Assistant Anæsthetist, also Casualty House Surgeon, both for six months. Salary in each case £100 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £65 per annum, with board and residence. Also Assistant House Physician. Salary £60 per annum, with board and residence.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £60 per annum, with board and apartments.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician for six months. Salary £30, with board, lodging, and laundry. Also Surgeon to Out-patients.

WARWICK, HATTON ASYLUM.—Third Assistant Medical Officer. Salary £135, with board, lodging, attendance, and laundry.

WEST HAM UNION INFIRMARY, Whipps Cross-road, Leytonstone, N.E.—Second Assistant Medical Officer, Salary £120 per annum, with allowances.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Surgeon. Also Surgical Registrar. Also Assistant Officer in Charge of the X-Ray Department.

WEST SUFFOLK COUNTY EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary £250 per annum, with travelling expenses.

WEST SUSSEX AND CHICHESTER JOINT EDUCATION COMMITTEE.—Medical Inspector of Schools. Salary £350 per annum and expenses.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Physician. Also Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

WHITCHURCH, NEAR CARDIFF, CITY MENTAL HOSPITAL.—Locum Tenens for two months. £4 4s. weekly and all found.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House Surgeon. Salary £120 per annum, with board and lodging.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at King's Norton, in the county of Worcester; at Bexhill, in the county of Sussex; at Fleet, in the county of Hants; at Attleborough, in the county of Norfolk; and at Dreghorn, in the county of Ayr.

Births, Marriages, and Deaths.

BIRTHS.

CARROLL.—On June 26th, at Redlynch, Salisbury, the wife of Lieutenant-Colonel E. R. W. Carroll, I.M.S., of a son.

HALL.—On June 26th, at Compton-terrace, Highbury, N., the wife of C. Beauchamp Hall, F.R.C.S. Eng., of a daughter.

NUTTALL.—On June 25th, at Manchester-road, Bury, Lancashire, the wife of A. Peel Nuttall, M.D. Lond., of a daughter.

PEARSON.—On June 28th, at Manor-place, Edinburgh, the wife of Charles Mowbray Pearson, M.B., F.R.C.P.E., of a son.

RAIT.—On June 27th, at "Woodstock," Lyndhurst-gardens, Hampstead, the wife of Captain J. W. F. Rait, I.M.S., of a son.

MARRIAGES.

TICEHURST—TAYLOR.—On June 27th, at St. James's Church, Weybridge, Gerald Augustus Ticehurst, M.A., M.B. Cantab., to Henrietta Elizabeth, second daughter of William Bramley Taylor, J.P., M.R.C.S.

WRIGHT—SOWELS.—On June 29th, at St. Cuthbert's Church, Thetford, by the Rev. R. C. S. Sweeting, Vicar of St. Cuthbert's, assisted by the Rev. R. W. Hardy, Vicar of St. Mary's, Thetford, Thomas James Wright, F.R.C.S.E., of 50, Prince of Wales-road, Norwich, to Constance Margery, third daughter of William Edward Sowels, Esq., of "The Rookery," Thetford, Norfolk.

DEATHS.

COTTON.—On June 25th, of pneumonia, Holland John Cotton, M.D., aged 57 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE ALEXANDRA ORPHANAGE.

Sir Horace B. Marshall, chairman and treasurer of the Orphan Working School and Alexandra Orphanage, of which their Majesties the King and Queen are patrons and the Prince of Wales president, has sent us a pretty little illustrated book entitled "The Foster Mother," written by Miss Hulda Friederichs to commemorate the 150th year of the Orphan Working School at Maitland Park. The school was founded on May 10th, 1758, and is the oldest orphanage for both boys and girls in the country. Miss Friederichs describes in language full of tender feeling the work of the orphanage and gives brief details of the pathetic cases which receive the ministrations of the institution. The Orphan Working School gives a home to its dependents from babyhood, and perhaps no charity can be more deserving of support than one which cares for those children who stand helpless on the threshold of life, when it is of the utmost importance that their talents and instincts should be rightly directed. The institution is in need of funds, and sympathisers with its work should certainly obtain a copy of "The Foster Mother" either from the publishers, Messrs. Horace Marshall and Son, Temple-avenue, London, E.C., or from the offices of the orphanage, 73, Cheapside, E.C.

THE USE AND ABUSE OF DISTRICT NURSES.

To the Editor of THE LANCET.

SIR,—Your correspondent hardly makes out a case for the intervention of the General Medical Council for the purpose of limiting the sphere of action of district nurses. His letter is not altogether clear, but he seems to complain:—

1. That the nurse is "called in" in place of the medical man. She is called in in place of the "wise woman," and as she has had some training she is far more likely to advise rational treatment and the employment of a qualified man than is the "wise woman," who feels no responsibility and does not know enough to appreciate her own ignorance.

2. That she attends midwifery. The Midwives Act has established the position of the midwife, and the district midwife is under better control and does no more than other midwives.

3. That she acts as assistant sometimes to the club medical officer. The objection to the unqualified assistant was that he pretended to be a qualified man. No one supposes that the district nurse is a qualified medical man. If she takes some of the work off the poor underpaid club officer I fail to see any objection. In all kinds of practice a nurse is a great and legitimate help to a medical practitioner.

4. That she is underpaid. No doubt she is, but I don't think the General Medical Council can, or will, interfere!

5. That district visitors collect for the nurse on the understanding that she will save medical fees. If they do, they receive money under false pretences! It is the "wise woman" and not the trained nurse who boldly treats serious diseases. The common complaint against district nurses is that they are too ready to send for the medical man.

"Senex" does not, I am glad to see, question the use of the district nurse. The good that she does in bringing neglected children under skilled and rational treatment is immense, while her attention to the heads of school children alone justifies her existence.

I am, Sir, yours faithfully,

O. CLAYTON-JONES, M.B. Oxon.,
Hon. Sec. Silverton and Bickleigh Nursing Association.

June 29th, 1908.

TREATMENT BY CORRESPONDENCE.

THE following extract from a cheap newspaper has been forwarded to us:—

THE DOCTOR AT HOME.

To make the *Sunday Circle* a real home and family journal, we have arranged for a London M.D.—late of St. Bartholomew's Hospital, and M.B. of Cambridge University—to answer medical and health questions in this column. We know the vast interest that readers take in matters of health and hygiene, and we are sure this column will be much appreciated. All questions of general interest will be answered in this column free; but replies cannot appear in this column under three weeks. We have arranged, however, with our M.D. to send immediate replies, with prescriptions, if necessary, to readers who send a postal order for one shilling, and a stamped addressed envelope. Such cases will not be mentioned in this column. Address all inquiries to "Medical," *Sunday Circle* Office, 17, New Bridge-street, London, E.C.

The Cambridge Bachelor of Medicine who is also a London Doctor of Medicine is behaving unprofessionally. He is picking up shillings, under the anonymous position of the *Sunday Circle's* M.D., which he should know are not rightly earned, inasmuch as such treatment by correspondence can never be safe or effective.

THE TAME PHYSICIAN.

A CORRESPONDENT has sent us a copy of a circular issued by Mr. Thomas Holloway from 78, New Oxford-street, London, W.C., the last paragraph of which runs as follows:—

> Thanking you for the trouble you have taken in writing to me, permit me to point out to you that the services of my Medical man are always at your disposal free should you require them.

As Holloway's pills are advertised as "especially useful for the cure of skin eruptions," as "invaluable to sufferers from ague," and "in all disorders of the liver and kidneys," we think that the tame physician of the firm, supposing that he is a qualified man, has only his anonymity between him and removal from the Register. We prefer to assume that he is not a qualified man.

EDIBLE EARTH.

Major Sykes, British Consul at Khorasan, writes in his official report:—During the course of one of my tours I was shown a cave in a limestone range from which was extracted a ferruginous clay of a light-red colour known as Gil-i-Armeni. This clay is transported to Meshad and is eaten as a medicine. In this connexion it is extremely interesting to note that Ibn Hawkal, the famous Arab traveller of the tenth century, refers to this earth as being largely exported for food. A specimen of the earth was sent to the reporter on economic products to the Government of India, who kindly analysed the clay, which, as will be seen below, can hardly constitute nourishing food. The habit is, of course, widely spread. The analysis is as follows: loss on ignition, per cent., 13·64; silica, 67·57; ferric oxide, 5·76; alumina, 7·87; lime, 2·76; magnesia, 0·98; potash, 0·67; soda, 0·58; sulphuric acid, 0·06; phosphoric anhydride, 0·11; total, 100.

A DANGEROUS ENTERTAINMENT.

AT Dewsbury on Friday last, June 26th, an inquest was held as to the cause of death of a boy who died after being lassoed. The boy attended a lassoing exhibition in the market place and agreed to be lassoed. The performer put him about six yards away and then told him to run. He did so, when the performer threw a rope, about 30 feet long with a running noose at the end, which caught the boy by the ankle. The boy fell, his head striking the stone, and he died soon afterwards from fracture of the skull. The performer was censured by the coroner.

WE have received a manuscript entitled "The Remedial Use of Alcohol," which bears no signature; it appears to have been read last week at a meeting of one of the learned societies, but the particular society is not mentioned. We should like to hear from the author whose covering letter has probably been detached.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, W. J. Gow): at 7.45 P.M.

Specimens:

Dr. T. J. F. McHattie: Case of Placenta Prævia in which the entire Gestation Sac was thrown off at the Twenty-eighth Week.

Dr. F. J. McCann: (1) A Fibroid complicating Pregnancy; (2) A Para-vaginal Tumour.

Dr. Reginald Jamison: Section of a Cervix Uteri removed from a Child aged Two Months showing Ectropion of the Cervical Mucosa.

Short Communications:

Dr. Kedarnath Das: Gastroschisis.

Dr. Macnaughton Jones: Acquired Atresia of the Introitus and Vagina in the Adult.

Papers:

Dr. F. W. Nicol Haultain: Chronic Inversion of the Uterus, with the Description of Three Cases treated by Abdominal Hysterotomy.

Dr. W. Blair Bell: Menstruation and its Relationship to the Calcium Metabolism.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

THURSDAY.—8.30 P.M., Lieut.-Col. G. S. Thomson, I.M.S.: Enteric Incidence in India and the Tropics and its Lessons.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8 P.M., Card Cases. 8.30 P.M., Mr. M. L. Hepburn: The Visual Fields in Pigmentary Degeneration of the Retina. Annual General Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Mr. B. G. A. Moynihan (Leeds): Duodenal Ulcer.

TUESDAY.—4 P.M., Dr. G. A. Sutherland: Clinique (Medical). 5.15 P.M., Lecture: Mr. C. H. Leaf: The Principles underlying Surgical Treatment in so-called Inoperable Cancer.

WEDNESDAY.—4 P.M., Mr. J. Cantlie: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. Turner: Dementia Præcox.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. R. H. A. Whitelocke (Oxford): The Injuries incidental to Athletic Exercises.

FRIDAY.—4 P.M., Mr. R. E. Bickerton: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. Dr. Davies: Diseases of Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Skin Diseases. 5 P.M., Lecture:—Dr. Low: Human Trypanosomiasis.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations on Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Ll. Williams: The Dental Examination of School Children.

THURSDAY.—2 P.M., Medical and Surgical Clinics. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Keetley: Clinical Lecture II.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Skin Diseases. 5 P.M., Lecture:—Mr. R. W. Lloyd: Anæsthetics.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations on Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. 2.30 P.M., Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Special Lecture:—Sir Dyce Duckworth: Morphinism and the Opium Habit. 4 P.M., Mr. L. A. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. T. Hewlett: Medicine. 3.15 P.M., Mr. McGavin: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Special Lecture:—Sir W. Bennett. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Dr. Beevor: Action of Muscles.

FRIDAY.—3.30 P.M., Mr. Armour: Surgery of the Nervous System.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), West London (2.30 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.) National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.)

Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (11th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1908, which was completed with the issue of June 27th, are given in this issue of THE LANCET.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1908 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 2nd, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 26	30·34	E.	...	131	79	53	57	65	Fine
,, 27	30·38	E.	...	102	68	56	58	61	Fine
,, 28	30·30	E.	...	120	76	56	57	60	Cloudy
,, 29	30·27	E.	...	123	79	56	58	62	Fine
,, 30	30·23	E.	...	122	79	54	56	60	Fine
July 1	30·29	E.	...	127	82	57	61	67	Fine
,, 2	30·31	E.	...	127	79	57	60	66	Fine

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